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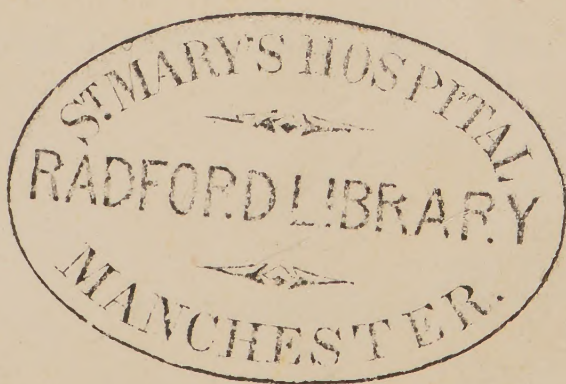


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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.

JULY—DECEMBER.

1873.



THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,
AND OF
THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

EDITED BY
WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

VOL. LVIII.

JULY—DECEMBER, 1873.

LONDON:
J. AND A. CHURCHILL, NEW BURLINGTON STREET.

EDINBURGH: MACLACHLAN AND CO. DUBLIN: FANNIN AND CO.

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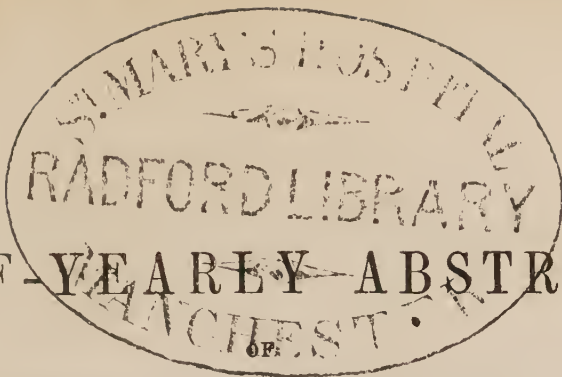
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VALEDICTUM.

WITH this volume the publication of the "Half-Yearly Abstract of the Medical Sciences" will terminate. This announcement, we venture to affirm, will be received by a large proportion of the Profession with mingled feelings of regret and surprise. When the first volume of the "Abstract" appeared—twenty-nine years since—few books of a like nature were in existence. As years have rolled on, works not dissimilar have been brought out, and contemporary publications have, without exception, adopted a "periscopic" feature, thereby, to a great extent, superseding half-yearly retrospects.

W. DOMETT STONE.

*Oxford Terrace, Hyde Park, W.,
December 24th, 1873.*



HALF-YEARLY ABSTRACT

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On the Properties of the Poison of Syphilis.*

By Professor BOECK and Dr. AXEL SCHEEL, of Christiana.

(*Schmidt's Jahrbücher*, No. 4, 1873.)

THE authors made investigations on subjects affected with syphilis, and inoculated syphilitic pus, in order to determine how long the syphilitic virus retains its contagious properties, and what changes it might undergo under the influence of cold and heat, when dried, and when mixed with other substances.

With regard to the duration of the virulence of the syphilitic poison, the authors found that after having been kept in well-closed glass tubes, like those used for vaccine lymph, the virus always gave a positive result on inoculation until the fifth day, and always a negative result after the eighth day. Virus kept on a hollow glass disc for eight or eleven days always gave a negative result, and, according to the daily experiments made by the authors, it seems that virus thus preserved does not preserve its virulence beyond the third day.

In order to determine the influence of cold on fluid syphilitic ichor, the authors applied freezing mixtures to vaccine lymph tubes containing some of the syphilitic fluid. Fresh virus subjected to a cold of between 6° and 16° Réaumur was in all instances inoculated with positive results. Of three inoculations of virus which had been surrounded by ice for five days, two were attended with positive results; the pustules were small on the third day, but subsequently became well developed. Inoculations of virus which had been preserved in ice for twelve days, always gave negative results. The general conclusion drawn by the authors from these investigations is, that the syphilitic virus does not lose its power through cold, but, on the contrary, preserves it for a somewhat longer period.

Seven experiments were then made in order to determine the influence of heat; positive results were obtained from the inoculation of virus

heated to 30° and 35° Réaumur. From the inoculation of virus heated to above 40°, no results were obtained. An inoculation of fresh virus, made on a part which was then covered by a fomentation, with the water heated to 40°, always gave positive results, even in instances in which the warm water did not remain in contact with the inoculated surface for more than half a minute.

Crusts of syphilitic pustules softened in water were then used for inoculation. The matter when preserved for a period not longer than six days, was inoculated with positive results, but when more than six days old its results were uncertain. In one instance, however, the authors obtained a positive result from the inoculation of the softened portion of a crust which was twelve days old. Syphilitic ichor was allowed to dry on a lancet into a thick crust, and then, after it had remained in this state for eight days, was inoculated in five places; in one there was a positive, and the other four a negative result. It seems from those experiments that the syphilitic virus, contrarily to what happens with vaccine lymph, retains its inoculability for a longer period in the dry than in the fluid condition. Inoculation with a lancet but just soiled by syphilitic virus, which could not dry into a thick crust, and which was not preserved for more than one day, gave a positive result in one only out of seven experiments. In one of these the result was uncertain, and in five negative. Experiments made with virus preserved thus for two days or longer, always failed. The possibility of transferring syphilis by means of a dirty lancet or other instrument, seems not to exist to such a degree as has been so frequently stated, and it is possible that in many of the supposed instances of this mode of transference, the true source of the contagion had been kept secret. The inoculation of syphilitic virus allowed to dry on a lancet, and mixed with water immediately before the operation, was always attended with a positive result in instances where the virus was not more than four days old; after the seventh day the experiment failed. Whether the syphilitic crust be thick or thin makes, therefore, considerable difference in the results of inoculation.

Experiments with syphilitic virus allowed to dry on lint, and then moistened, were always attended with negative results, even in instances in which the virus had not been kept for more than one day. This result agrees with the experience that laundresses seldom contract the disease in washing the linen of syphilitic subjects. In cases where syphilis is thus contracted, it is probably due to the inoculation of a cut or sore on the hand with moist syphilitic virus.

Inoculation of syphilitic virus, mixed with 100 parts of water, gave positive results; with more than 100 parts of water, the inoculations either failed or the incubation-period was prolonged; with more than 300 parts of water, the results were uncertain; with 500 parts of water, usually, and with 600 parts always, negative. In two instances the authors failed in inoculating with results virus mixed with 25 parts of water, but the subject of those experiments had been treated by syphilization for two months, and therefore was almost quite insusceptible.

ART. 2.—*On Morbid Changes in the Sympathetic System in Constitutional Syphilis.*

By Dr. PETROW.

(*Virchow's Archiv*, Bd. lxxv. Heft 1, 1873; *Gazette Hebdomadaire*, No. 19, 1873.)

It is well known that no organ and no tissue is exempt from the noxious influence of syphilis. The destructive action of this disease, according to Dr. Petrow, may be revealed in the system of the great sympathetic as well as in the nervous centres. This conclusion is founded on a minute examination of twelve cases of acquired constitutional syphilis.

The author has carefully examined the cervical, thoracic, and solar plexuses ten, twenty, and at the longest twenty-four hours after death. All these fresh specimens were submitted to microscopical examination, after having been treated by glycerine, by diluted tincture of iodine, by chromic acid, according to Schultze's method, by chloride of gold, according to Cohnheim's modification of Gerlach's method, or, finally, by osmic acid.

The pathological changes revealed in these examinations are of two kinds.

In some the general affection is manifested by lesions of nerve-cells (parenchymatous lesions).

In others by lesions of the interstitial tissue (interstitial lesions).

1. *Lesions of the protoplasm of nerve cells.*—In these the tissue interspersed between the primitive fibres and the ganglionic cells is quite healthy. The nerve tubes present no modification; the nerve cells alone are altered.

In cases of recent syphilis, one finds in these latter elements small refracting *pigmentary* granulations, which may be either disseminated or confluent. The remainder of the protoplasm preserves its finely granular aspect, and one may readily distinguish the nucleus and nucleolus of each nerve-cell.

The number of pigmentary granulations increases with the progress of the disease, and these minute bodies finally fill the whole cell, and almost completely mask the nucleus, which disappears when the process has arrived at its ultimate stage.

Nitric acid or potash renders the pigment clearer, but does not, however, completely dissolve it.

Dr. Petrow seems inclined to admit that in instances of this kind the hæmatine of the blood has been the origin of the pigment. He remarks that several observers have found in man and in animals pigmentation of nerve-cells, which could not be attributed to any pathological condition, and which occurred most frequently in subjects of advanced age; but in these cases, he adds, the pigment occupies but a small portion of the cell, in the form of isolated granulations, and the nucleus always remains quite visible.

In the just-described lesions of nerve-cells, the endothelium of these elements is occasionally the seat of a cellular proliferation, so abundant

that the nerve-cells themselves appear as if surrounded by a thick zone of embryonic elements.

At other times the nerve-cells, and also their endothelium, undergo colloid degeneration. The protoplasm then presents itself in the form of a brilliant homogeneous mass; the cell preserves its form and normal dimensions, but its nucleus disappears or seems to be pushed towards the periphery.

This colloid change might be confounded with the luminous and transparent vacuoles, which are sometimes met with in the normal condition of the tissues, but these resist all reagents, whilst the colloid masses swell up, and are rendered opaque on the addition of acetic acid, and are dissolved by alkalies.

2. *Morbid changes of the interstitial cellular tissue (interstitial lesions).*—These lesions predominated in the specimens examined by Dr. Petrow. Instead of scarcely appreciable fibres, with confused contours, such as may be seen in interstitial tissue, a manifest hyperplasia of this tissue is met with, forming cellular bands, which are disposed in different ways, and which appear to dissociate the cells and nerve tubes.

The cellular elements (endothelium) which surround the nerve-fibres participate in these lesions of the interstitial substance; they become opaque and finely granular. Their contours become effaced, but the nuclei still remain visible. When the morbid change is of long standing, one no longer meets with distinct elements on the internal surface of the envelope of the nerve-cells, but with finely granular masses which are soluble in ether.

The nerve-cells in their turn diminish in volume, and take on an irregularly angular form. The protoplasm becomes charged with more or less pigmented granulations.

The nerve-fibres, which traverse the interstitial tissue in course of proliferation, appear as if stifled by the compression to which they are subjected. Their enveloping membrane is thickened, their contours are well marked, and the myeline sometimes changes into granular detritus.

In order to make out this proliferation of interstitial laminar tissue, Dr. Petrow had recourse to osmic acid, which gives a black colour to nerve elements, without modifying the connective substance. He made use of a diluted solution (one part of osmic acid to four or five hundred parts of water), in which he macerated his preparations for six or seven hours.

To resume: syphilis produces marked changes in the great sympathetic. These in some instances affect primarily the nerve-cells which undergo pigmentary or colloid degeneration, in others the interstitial tissue, hyperplasia of which induces granular atrophy of the cells and nervous tissues.

Finally, the endothelium itself, which surrounds the nerve-cells, may also participate in the pathological process. At first one observes an abundant endothelial cellular proliferation, later a retrogressive and granulo-fatty metamorphosis of these elements.

ART. 3.—*On the Diagnosis of Syphilitic Encephalitis.*

By Dr. LANCEREAUX.

(Gazette Hebdomadaire, No. 32, 1873.)

The diagnosis of syphilitic encephalitis is difficult on account of the numerous symptomatic forms that may present themselves. Still, the succession and the modality of the symptoms may lead to the discovery of the specific cause. An intense, persistent, and obstinate cephalalgia with nocturnal paroxysms and attacks of vertigo, yielding rapidly to the action of mercury or iodide of potassium, is a sign of great diagnostic value. Insomnia, whether associated or not with the above symptoms, is a sign not less important and not less frequent. Syphilitic paralysis is remarkable from the irregularity of its distribution and its irregular course; the hemiplegia has neither the sudden accession nor the stability of hemiplegia which is symptomatic of hæmorrhage or of cerebral softening due to arterial obliteration, except in cases where this obliteration is associated with a syphilitic process. Epileptiform attacks without aura, and convulsive tonic or clonic fits without absolute loss of consciousness, preceded and followed by more or less violent cephalalgia, constitute the symptomatic indications which lead to a suspicion of syphilis.

But it is important not to restrict oneself to the examination of a single system; every organ should be carefully examined, and so taking aid of associated phenomena and regarding concomitant cutaneous, osseous, or visceral affections, and the cachectic condition which is seldom absent, the physician will in most cases be able to recognise, with the seat and extent of the lesion, the source from which it is derived. For instance, a certain amount of deformity of the liver, coinciding with slight albuminuria, may have a great diagnostic importance. Finally, in the case where the totality of symptoms goes to constitute one of the syndromata, known under the name of epilepsy, of hemiplegia with or without aphasia, or even of general paralysis, the age of the patient, and the circumstance that the pathological disorder was subsequent to the appearance of syphilis, will serve as valuable indications. It should also be remembered that tertiary encephalitis always remains localized to a part of the brain.

The cerebral disturbances engendered by abuse of spirituous drinks can be readily differentiated from those which appertain to syphilis. In alcoholism the patient is tormented by dreams, illusions, and even hallucinations; sensibility is always disturbed, but consciousness remains unaffected. The paralytic symptoms, produced by the action of lead, are distinguished by their special localization to the extensor muscles of the limbs. General progressive paralysis, as described by French authors, is never, as some suppose, an effect of syphilis, the character of which, in its advanced phase, is to proceed invariably by single or multiple lesions which are limited, always partial and not very extensive. Indeed, the symptomatic disorders of cerebral syphilis may present a great resemblance to those of general paralysis; but if they be regarded more closely it will be found that this resemblance is but apparent, and that

it is due to the localization of the morbid change to a special centre of motility or the intellectual faculties, and not to the lesion of the whole periphery of the encephalon. In short, there exists between syphilitic encephalitis and the encephalitis of general paralysis the difference which has been established between the cirrhosis of syphilis and the cirrhosis of alcoholism, one being general whilst the other is always partial: the affections may be thus differentiated. Intense cephalalgia at the commencement, blepharoptosis, strabismus, apoplectiform attacks, followed by hemiplegia and various disturbances of motility having, as a special character, a rapid or instantaneous disappearance; such are the principal symptoms which may lead one to recognise the syphilitic paralyses which most resemble the progressive paralysis of the insane.

Tuberculous or sarcomatous tumours of the encephalon, when situated in the brain or on the surface of the meninges, may give rise to disturbances which cannot always be readily distinguished from those due to syphilitic growths. By taking into account, however, the age of the patient, his morbid antecedents, and the mode of evolution of the affection, one will, in most instances, be led to suspect, if not to diagnose surely, the nature of each of these diseased conditions. Tubercle is indeed an almost exclusive appanage of youth, and the brain is one of its principal places of election. Sarcoma, on the contrary, occurs in more advanced age. It is characterized by the slowness of its development and by a progressive increase, whilst the syphilitic neoplasm is most frequently arrested at a given moment of its evolution. Cerebral hæmorrhage and ischæmic softening are distinguished by a persistent and tenacious hemiplegia, which is but little susceptible of amelioration. The diagnosis of syphilitic localization necessarily depends on a study of symptoms. There is no special difference in the symptoms whether the hemispheres, the cerebellum, or the pons be affected; but it is important to know that epileptiform fits denote a lesion of the meninges, or of the periphery of the encephalon.

Syphilis, when localized in the encephalon, is to be regarded as a serious affection, not only on account of the importance of the disturbed functions, but also by reason of the frequency of relapse. One often sees an amelioration, or even a rapid recovery, followed by an affection more intense than the former, and more difficult to deal with. From some statistics collected by Dr. Gjör, we learn that of 30 patients, 5 were cured, 12 were relieved, 6 obtained no relief, and 7 died. Of 147 cases collected by the younger Lagneau, there were 83 that terminated more or less unfavourably, and 57 were fatal, that is to say, about two-fifths of all the cases. In 7 instances death resulted from an incident malady.

The examination of cases, in accord with physiological data, indicate that the most severe lesions are such as involve the parts most essential to life. Osseous and meningeal lesions, and such as occupy but the periphery and the convexity of the encephalon, are much less severe than those which attack the more deeply-seated parts and the base. With regard to the symptoms, it may be stated that cephalalgia and insomnia have no very serious import. Vertigo and convulsive attacks do not permit one always to decide with certainty as to the issue of the malady; but they are less formidable than paralytic symptoms and dis-

turbances of the intellectual faculties (idiocy, hebetude, torpor, somnolency), which, of all the syphilitic disorders of the encephalon, are certainly the most grave. These symptoms become the more serious the longer they last, because there is then a probability of more or less considerable destruction of the nerve elements. This destruction has almost certainly taken place when permanent contraction is associated with paralysis. Whatever may be their nature, the syphilitic localizations of the encephalon are less formidable, even in the absence of specific treatment, than any other like affections of a different origin; it is especially when they are recognised and treated at an early stage that these manifestations may be advantageously dealt with.

The treatment of these affections consists in the employment of iodide of potassium, in doses of from one to three or four grammes in the course of the twenty-four hours. It is found advantageous to associate mercury with the iodide; calomel in small doses will often produce the best results.

ART. 4.—*Experimental Researches in Cerebral Physiology and Pathology.*

By DAVID FERRIER, M.D.

(*British Medical Journal*, April 26.)

Dr. David Ferrier gives the following as the more important conclusions which he has arrived at from many extremely interesting and important experiments made by him on different animals in the laboratory of the West Riding Asylum, Wakefield. The details of method, experiments, and illustrations will be hereafter given in the reports of the above-mentioned institution.

1. The anterior portions of the cerebral hemisphere are the chief centres of voluntary motion and the active outward manifestation of intelligence.

2. The individual convolutions are separate and distinct centres; and in certain definite groups of convolutions (to some extent indicated by the researches of Fritsch and Hitzig), and in corresponding regions of non-convoluted brains, are localized the centres for the various movements of the eyelids, the face, the mouth, the ear, the neck, the hand, foot, and tail. Striking differences corresponding with the habits of the animal are to be found in the differentiation of the centres. Thus the centres for the tail in dogs, the paw in cats, and the lips and mouth in rabbits, are highly differentiated and pronounced.

3. The action of the hemispheres is in general crossed; but certain movements of the mouth, tongue, and neck are bilaterally co-ordinated from each cerebral hemisphere.

4. The proximate causes of the different epilepsies are, as Dr. Hughlings Jackson supposes, "discharging lesions" of the different centres in the cerebral hemispheres. The affection may be limited artificially to one muscle or group of muscles, or may be made to involve all the muscles represented in the cerebral hemispheres, with foaming at the mouth, biting of the tongue, and loss of consciousness. When induced arti-

pecially in animals, the affection as a rule first invades the muscles most in voluntary use, in striking harmony with the clinical observations of Dr. Hughlings Jackson.

5. Chorea is of the same nature as epilepsy, dependent on momentary discharging lesions of the individual cerebral centres. In this respect, Dr. Hughlings Jackson's views are again experimentally confirmed.

6. The corpora striata have crossed action, and are centres for the muscles of the opposite side of the body. Powerful irritation of one causes rigid pleurosthotonos, the flexors predominating over the extensors.

7. The optic thalamus, fornix, hippocampus major, and the convolutions grouped around it, have no motor signification.

8. The optic lobes, or corpora quadrigemina, besides being concerned with vision and the movements of the iris, are centres for the extensor muscles of the head, trunk, and legs. Irritation of these centres causes rigid opisthotonos.

9. The cerebellum is the co-ordinating centre for the muscles of the eyeball. Each separate lobule (in rabbits) is a distinct centre for special alterations of the optic axes.

10. On the integrity of these centres depends the maintenance of the equilibrium of the body.

11. Nystagmus, or oscillation of the eyeballs, is an epileptiform affection of the cerebellar oculo-motorial centres.

12. These results explain many hitherto obscure symptoms of cerebral disease, and enable us to localize with greater certainty many forms of cerebral lesion.

ART. 5.—*Prophylaxis of Asiatic Cholera.**

By HENRY MACCORMAC, M.D., Consulting Physician to the General Hospital, Belfast.

(*British Medical Journal*, August 23.)

Within certain limits, Dr. MacCormac considers Asiatic cholera a highly communicable malady; and he has no hesitation in proclaiming, speaking of his own conclusions, that every case without exception, occurring in Europe, is, was, and will be the result of infection. No disease, the author believes, more strikingly attests the exceeding efficacy of early treatment than does Asiatic cholera. The evidence afforded in Glasgow, to mention no other locality, is quite conclusive on this point. Persons went daily, if not twice daily, from house to house, and wherever they found any one labouring under premonitory diarrhœa, as it was termed, they instantly administered a dose of cholera mixture, and left other doses to be used in case of any return of the diarrhœa. The result was, that in every 1400 cases of diarrhœa thus met, there was but one death; whereas, if it had been left alone, the half of those attacked probably would have perished. It would be difficult, Dr.

* Read before the Public Medicine Section at the annual meeting of the British Medical Association in London, August, 1873.

MacCormac thinks, to adduce any stronger evidence of the efficacy of remedial measures zealously, timely, and effectively administered than this. Nevertheless, numbers died in Glasgow; and the ravages of cholera, since its first introduction into Europe, have been very great indeed.

Under these circumstances, it occurred to Dr. MacCormac that it would be excessively desirable, so far as it was possible, to anticipate even the premonitory diarrhœa. For, if only we can succeed in averting the disease, were it in its mildest form, we also avert the dangers and the mortality, which more or less attend the developed malady. In 1854-5, some repairs going on, and a communication having been opened with the infected town, forty of the inmates of the District Asylum for the Insane, to which the author was visiting physician, were assailed with Asiatic cholera, and seventeen almost immediately perished. He instantly caused to be prepared a large admixture of what might be termed sulphuric acid lemonade, in the proportion of half a drachm of the dilute acid to each dose, and zealously aided by the resident physician and Dr. MacCormac's son, had this administered daily to every one of the four hundred inmates of the establishment. The twenty-three residuary cases of the forty who were attacked remained, of course, under treatment, and made good recoveries; but not a single other fresh case ensued, and the malady then and there, in fact, disappeared. In the event of the apprehended invasion of Asiatic cholera, and *à fortiori*, when it had actually occurred, Dr. MacCormac would urge the administration, once or twice daily, to every adult member of the community, of half-drachm doses of dilute sulphuric acid, as the most generally available, in any convenient vehicle. Drinking water, previously filtered, should invariably be raised to the boiling-point; and, while hot, flavoured with a pinch of tea or coffee, a chip of cinnamon, quassia, gentian, dried orange-peel (any of them), or else a small fragment of highly-toasted bread. In China and Japan, the water, before drinking, is almost invariably cooked and flavoured with a little tea. Much of the immunity enjoyed by the people of these countries from the ravages of Asiatic cholera is ascribed to the prevalence of this most beneficial practice. To children, half or less of the above amount might be given. Of course, *il va sans dire*, that every reasonable sanitary precaution, such as burnt earth-closets, and cooked drinking-water, should in addition be taken.

ART. 6.—*Opium and the Actual Caustery in the Treatment of Cholera.*

By C. E. BROWN-SÉQUARD, M.D.

(*Boston Medical and Surgical Journal, and Medical Press and Circular*,
Oct. 22.)

"I have had considerable experience in the treatment of epidemic or Asiatic cholera. In 1849, in Paris, the number of army physicians being insufficient, some civilians, among whom I was, were called to take charge of the soldiers attacked with cholera, at the Gros-Caillou Hospital. In the Mauritius, at Port Louis, in 1854, I had charge of an

hospital—besides a very large private practice—during one of the most murderous epidemics of cholera that have existed outside of India. Nearly 6000 people, out of a population of about 45,000, died in five weeks. Of all the means of treatment I have employed (and my trials have been very numerous) none has given by far as favourable results as the use of opium in extremely large doses. I will only mention what occurred at a convent, which seems to have been one of the great *foci* of the disease in the Port Louis epidemic. No death was observed there, although a large number of Sisters of Charity and of young girls (the convent was a boarding-school) were attacked with either the premonitory symptoms or the confirmed and cyanotic cholera. Thirteen of those patients were seized with the most serious symptoms, and all, however, recovered, many of them, if not all, evidently owing to the treatment. For reasons mentioned hereafter, a great many of my hospital and private patients died, notwithstanding my having used opium in their case as I did at the convent. But here was the difference, and in this lies the important point as regards the use of opium against cholera: in the convent the rules given were strictly followed; they were not elsewhere.

“They were, first, to give opium every twenty minutes, and in large doses, so long as the cholera symptoms existed, without fearing poisoning; secondly, to begin the treatment as early as possible. The Sisters of Charity acted just as I desired, and saved, as I have said, all their patients. The fear of poisoning, and many other reasons, prevented the proper application of the rules elsewhere. The preparation almost always employed was laudanum. If there was no great vomiting, or if the vomiting was checked by Rivière’s potion (a carbonate and tartaric acid, taken separately one immediately after the other, disengaging carbonic acid inside of the stomach), the laudanum was given by the mouth. If the vomiting was frequent, the laudanum was injected into the bowels, but with the precaution of having a thorough washing of the large intestine by a previous enema to bring out all the contents of that tube, so that the laudanum was rarely rejected. In bad cases a dose of twenty minims of strong laudanum (Sydenham’s) was used every fifteen or twenty minutes until the cholera symptoms had ceased, or (*which never occurred when cholera still showed its existence*) until some slight symptoms of opium-poisoning appeared.

“I hardly need to say that this mode of treatment does not succeed when the blood has been considerably altered by the loss of a very large amount of its salts.

“Of course these rules are not to be followed in cases of mere cholerine, or in the premonitory stages of cholera; but even then opium in much smaller doses is also the best means.

“Now that we possess a much better means of obtaining rapid absorption of the principal curative element of opium—morphine—in subcutaneous injections, it is clear that it is that substance which ought to be used, and in that way. I may add that many physicians have already proposed and used subcutaneous injections of morphine against cholera.

“Against the lack of urinary secretion in cholera, I have employed with benefit, in some cases, the actual cautery on the loins.”

ART. 7.—*Treatment of Cholera.*

By ALEXANDER SMITH, M.D., Staff Surgeon-Major ; Statistical Officer to the Inspector-General of Hospitals, British Forces in India.

(“Fever and Cholera from a Near Point of View,” pp. 301, Calcutta, 1873.)

Dr. Smith regards the difference between cholera and simple continued fever as one only of degree, and recommends the exhibition of quinia, which should be given hypodermically whenever the stomach is too irritable to retain it.

ART. 8.—*The Absence of Purging in Cholera.*

By WILLIAM SEDGWICK, M.R.C.S.

(*British Medical Journal*, August 30.)

The author directed attention to the fact that, in cases of cholera, purging was apt to cease when collapse became intense, owing to inability of the bowels to expel their contents. This cessation of purging was followed by abdominal distension from the accumulation of the rice-water flux; and the attempts to restore the action of the bowels by purgative drugs had signally failed. The assumed elimination, by means of purgatives, of an assumed poison in cholera, was undoubtedly based on a misapprehension of the pathology of a flux; and the practical conclusions to be drawn from the evidence adduced were that, in a fully established case of cholera, the cathartic method of treatment would tend (1), to deepen the collapse (2), to increase the flux, and (3), to weaken the expelling power of the alimentary canal.

ART. 9.—*Treatment of Cholera.*

By GEORGE R. PLAYFAIR, M.D., late Deputy Inspector-General of Hospitals, Bengal Medical Service.

In a letter addressed to the editor of the *Edinburgh Medical Journal*, Nov. 1873, Dr. Playfair says, during a residence of more than thirty years in East India, he had frequent opportunities of treating Asiatic cholera. Should it become epidemic in Great Britain, he offers for publication a circular (subjoined) which for many years during the latter part of his Indian service he was in the habit of distributing to his patients, also to the many medical officers in his circle of superintendence.

WHEN CHOLERA IS EPIDEMIC.

Avoid eating any green vegetables or much fruit. Never use strong purgatives, especially those which are called saline, such as Epsom salts.

Cholera is curable in its early stage, but this stage is frequently not noticed, owing to ignorance of the symptoms. These are:—1. Disin-

clination for food. 2. Sense of depression and fatigue. 3. Feeling of relaxation, sometimes pains and cramps in the bowels. 4. One loose motion (perhaps only one), followed by others, each more loose than the preceding. 5. Nausea at stomach. 6. Vomiting first of contents of stomach, afterwards of a colourless watery fluid. The pulse quite distinct. Any two or three of these symptoms, when cholera is committing its ravages in a district or city, should be looked on with suspicion, and the remedy taken. Symptoms 2, 3, and 5 are difficult to perceive in children; in them, a contracted appearance of the features, and darkness under the eyes, in addition to the purging and vomiting, ought to give suspicion of cholera.

REMEDIES.

EXTERNAL.—As early as possible, a very large mustard poultice, having mixed with it a heaped teaspoonful of cayenne pepper, to be placed across the small of the back, so as to be over each kidney, and to be kept on at least one hour for an adult male.*

INTERNAL.—1. *For an adult accustomed to take several glasses of wine or beer daily.*—Rum or brandy, two wineglassfuls. Cayenne pepper, four grains (two pinches). Laudanum, forty drops.

2. *For an adult unaccustomed to any stimulants (male or female).*—Rum or brandy, one wineglassful. Cayenne pepper, two grains (one pinch). Laudanum, twenty drops.

3. *At fourteen years of age.*—Rum or brandy, half a wineglassful. Cayenne pepper, one grain. Laudanum, twelve drops.

4. *At six to eight years.*—Rum or brandy, one dessertspoonful. Cayenne pepper, half a grain. Laudanum, six drops.

5. *At two to five years.*—Brandy, one teaspoonful. Peppermint oil, one or two drops. Laudanum, three drops.

The above doses to be mixed with a wineglassful to a tumblerful of as hot water as can be swallowed, and the whole to be taken at once.† It is *essential* that the patient keep quiet in bed and in a darkened room. In hospitals, and other places where many are living together, it will be convenient to have a bottle or bottles ready of cholera mixture, to be made thus:—

Brandy or strong rum	1 bottle.	} Mix.
Laudanum	320 drops.	
Cayenne pepper powder	32 grains.	
Dose for an adult, 2 wineglassfuls (if accustomed to stimulants).						} To be given mixed with <i>hot</i> water, as above.†
Or ditto,	1 ditto.					
14 years,	$\frac{1}{2}$ ditto.					
6 to 8 ditto,	1 dessertspoonful.					
2 to 5 ditto,	1 teaspoonful.					

Also under such circumstances instead of mustard and cayenne pepper, use two parts of coarsely-ground flour or oatmeal, and one part of cayenne pepper made into a poultice, to be used as above.* It is further advisable that persons in the early stage of cholera should not be treated in the same room with those in whom the disease has advanced to the stage of collapse—in which the pulse is almost imperceptible. *If the first dose is rejected, give a second.*

When there is no pulse perceptible, or it is very weak, the above mixture must *never* be given. The treatment should be:—

1. Mustard and cayenne pepper poultice. 2. Saturated solution of camphor in spirits of wine. Dose—One to three drops in water every quarter of an hour. 3. Hot water enemas (large tumblerful, as hot as can be borne), having dissolved in them half an ounce of common salt and thirty grains of carbonate of soda, to be injected every half-hour, and retained as long as possible. These are useful in restoring warmth, and the pulse, in cases of extreme collapse. 4. As soon as the pulse begins to be felt and the urine to be secreted, give at short intervals small quantities of light easily-digested food.

N.B.—In every case send at once for a doctor.

ART. 10.—*On the Contagious Properties of Choleraic Dejections.*

By Dr. POPOFF.

(*Berliner klinische Wochenschrift*, No. 33, 1872 ; *Archives Générales de Médecine*, Mai, 1873.)

This author's investigations are the more interesting as several observers have denied the contagious properties of choleraic stools, and others in admitting these properties have identified them with the infection produced by putrid substances.

In order to decide the question, the author sought for clinical and pathological signs which might permit him to distinguish in animals putrid from choleraic infection. The lesions of the lymphatic glands of the intestine, which will be afterwards described, seem to him to be characteristic.

The experiments were made on a series of dogs, some being acted upon by an infusion of putrid meat, and of meat mixed with fermentescible substances, and others with choleraic products, such as the vomited material, excrement, urine, &c. These different products were introduced into the organism either directly by the vascular system, or indirectly through the digestive passages.

The author observed characteristic differences in the results of these two series of experiments.

In instances of putrid infection, the symptoms of poisoning are rapid, and show themselves as soon as the poison has passed into the blood, and they attain their maximum in the course of a few hours ; in choleraic poisoning, on the other hand, the first symptoms hardly commence before the end of the first day, and are often deferred for several days. In the former case, the stools are abundant from the first ; they have generally a brownish tinge, and are mixed with blood ; in choleraic infection the evacuations do not occur at so early a period ; they present a slight yellow or greenish tinge ; they are sometimes very copious, and may persist for several days. Vomiting occurs much more frequently in putrid infection than in choleraic infection. The temperature attains its maximum at the end of a few hours in putrid infection, and in cases of recovery returns to its normal point at the end of the second or third day ; in cases where the poisoning has been very intense, the temperature sinks at the end of a few hours, and death soon takes place. In cholera,

the temperature is gradually elevated, and does not attain its maximum for some days; the maximum is preserved for some days, and falls just before death. The author has never observed cramps in cases of putrid infection; this affection, on the other hand, is very frequent, often even violent, and very persistent in cases of choleraic infection. The pulse is generally accelerated in putrid infection, whilst in cholera it is much diminished (36 pulsations in the minute).

The anatomical lesions present characters as distinct as the clinical symptoms in putrid infection; one observes all the characters of hæmorrhagic gastro-enteritis without special disorders of the lymphatic ganglionic system; in choleraic infection, on the other hand, these disorders are characteristic, and the solitary follicles everywhere present very marked lesions. In putrid infection, the liver usually presents signs of parenchymatous inflammation, passing to the condition of fatty degeneration; in cholera this inflammation is very slight, and is characterized principally by blood stasis. In cholera one may almost always observe parenchymatous inflammation of the kidneys (fatty degeneration); the right ventricle of the heart is gorged with blood, the left ventricle being empty.

The author gives the following conclusions:—

1. Choleric dejections (vomited material, excrement, urine) are contagious as soon as they have penetrated into the organism.
2. The more recent the dejections the more contagious are they.
3. When the choleraic dejections have undergone decomposition, then injection gives rise to symptoms resembling those of putrid infection.
4. Infection may take place after the direct passage of the poison into the blood, that is to say, independently of the tissues.
5. The action of choleraic poison introduced into the organism of an animal is deferred for an interval, varying from one to three or even more days.

ART. 11.—*Tubercular Fever and its Relation to Enteric Fever.*

By JOHN HARLEY, M.D.

(*St. Thomas's Hospital Reports*, vol. iii. 1873.)

Dr. Harley uses the term “tubercular fever” instead of acute tuberculosis, because he considers the latter term to imply a more chronic and less febrile condition than is exemplified in his cases.

The object of the paper is to prove not only that tubercle may form an actual component of enteric fever, but that fully developed enteric fever may be solely caused by the simultaneous eruption of miliary tubercle in the intestinal glands and in the lungs. Dr. Harley denies that a specific poison is the cause of enteric fever, because he has never seen it, and that the inflammatory product is a *specific* deposit, because were it, we would then have two kinds of specific exudation deposited simultaneously, the one in the intestinal glands, the other in the lungs or any other part; which he thinks is absurd.

Dr. Harley believes that enteric fever "may arise in any simple inflammatory condition of the body (particularly pneumonia) as soon as the inflammatory action involves the glands of the ileum or colon;" that "when the ileal glands alone are affected, the distinction between tubercular and enteric fevers is absolutely *nil*."

Dr. Harley appears to consider that tuberculous disease of the intestine may manifest itself as enteric fever. Although the diagnosis at the bedside of these two diseases is sometimes obscure, yet the pathological evidence of their difference is marked. Moreover a careful observation of the temperature serves to throw light on the diagnosis. In enteric fever the temperature is high by the end of the first week, and keeps high for an indefinite time; when it begins to decline, its diminution is regular; whereas in acute phthisis the temperature is subject to great and sudden variations, even to the extent of six or seven degrees, and bears no regular relation with the respiration or pulse.

Dr. Harley has not considered it necessary to argue the correctness of his views, and we doubt if the present paper will make any converts to his peculiar doctrines.

ART. 12.—*On the Treatment of Typhoid Fever by Internal Disinfection.*

By STEPHEN SKINNER, M.B.

(*The Practitioner*, September.)

Mr. Stephen Skinner, contributes a short paper on the treatment of enteric fever by the use of sulphocarbolate of sodium. He administers the drug in twenty-grain doses, every fourth hour, and gradually increases the quantity during the next few days to thirty grains. He appends twenty cases in which this mode of treatment was carried out, one case only terminating fatally. He believes that, in cases in which the drug was administered during the period of incubation, the disease either ran more quickly, or it did not become developed. The opinion which he entertains regarding the effect of the remedy is, however, he admits, only conjectural; but he advocates a further trial of the salt to settle its real use or uselessness.

ART. 13.—*The Statistics of Rheumatism.*

By THOMAS B. PEACOCK, M.D., F.R.C.P., Senior Physician to St. Thomas's Hospital.

Dr. Peacock, in the annual report of St. Thomas's Hospital, gives the following as conclusions arrived at from a careful study of eighty-seven cases of acute rheumatism:—

a. The acute forms of rheumatic fever are most common in early life. The chronic forms are almost peculiar to old age.

b. The disease is more common in men than in women, in consequence of their greater exposure to cold and wet.

- c.* One attack of acute rheumatism predisposes to another.
- d.* As many as nine attacks were found to have occurred in one patient.
- e.* In the majority of cases the disease runs a mild course.
- f.* In none of the cases reported did the temperature rise above 104° Fahr.; and in only a few did it reach 103° Fahr. The highest temperature was usually found on the day after admission.
- g.* Very little joint-mischief is sufficient to cause a rise in the temperature.
- h.* The greatest risk in the course of the disease arises from cardiac complication. Over 33 per cent. of the whole cases showed more or less signs of it, and in most instances the heart was found affected at the period of admission.
- i.* Cardiac complications are most common in early life, and are more frequent in the male than in the female.
- j.* The cardiac mischief is not directly proportional to the severity of the fever. In a mild case the heart may become affected, while in a severe case it may remain entirely unaffected.
- k.* Pericarditis is most common in the slight, endocarditis in the severe attacks. The former complication is more amenable to treatment than the latter.
- l.* Cardiac complication, although the most formidable, is not the only one to be feared in the course of acute rheumatism. Inflammation of the lungs and pleura are not unfrequent.
- m.* The treatment consisted, in *acute* cases, chiefly of the bicarbonate of potash, with or without some nitrate. In the subacute, iodide of potassium and small doses of colchicum were administered. When the pain was severe, opium or Dover's powder was given at bedtime, and mercurial purges when the tongue was foul.
- n.* Heart-complications were combated by blisters and poultices.
- o.* Convalescence was aided by quinine and iron.

ART. 14.—*Treatment of Cerebro-Spinal Fever.*

By J. LEWIS SMITH, M.D., Consulting Physician to New York
Infant Asylum, &c.

(*American Journal of the Medical Sciences*, October, 1873.)

At the termination of an exhaustive paper on cerebro-spinal fever, Dr. Smith, in speaking of the treatment, says:—"Although we do not fully understand the conditions in which cerebro-spinal fever originates, it is certain, from facts observed in epidemics, that we are able to do something to diminish its severity and prevalence, and to protect the community. Measures to this end must be of a twofold character—namely, such, in the first place, as are calculated to improve the surroundings of the individual, so as to conduce to a better state of health; and, secondly, the regulation of his mode of life. Cleanliness and dryness of streets and domiciles, perfect drainage and sewerage, prompt removal of all refuse matter, avoidance of overcrowding, so as to procure the utmost

salubrity in the atmosphere, the use of plain and wholesome food—in a word, the strict observance of sanitary requirements in all the surroundings—cannot fail to reduce the number and diminish the severity of cases; for this disease assumes its worst form and numbers the most victims where anti-hygienic conditions most abound. Of scarcely less importance is a strict surveillance of the mode of life, especially of children and young people, during the time of an epidemic. We have seen that this disease not infrequently follows irregularities in the mode of life, excesses of whatever kind, and fatigue, mental or bodily. These should therefore be avoided. A quiet mode of life and moderate exercise, plain and wholesome and regular meals, and the full amount of sleep afford some, but not complete, security in the midst of an epidemic.

“*Curative.*—It will aid in determining the proper mode of treatment to bear in mind the anatomical characters as ascertained by post-mortem examinations. As the chief danger in the first days is from the intense inflammatory congestion of the cerebro-spinal axis, the prompt employment of measures calculated to relieve this is of the utmost importance. To this end bladders or bags of ice should be immediately applied over the head and nucha, and constantly retained there during the first week. Bran mixed with pounded ice produces a more uniform coldness, and is more comfortable to the patient, than ice alone. Cold produces a prompt and powerful effect in diminishing the turgescence of the cerebral and meningeal vessels. A hot mustard foot-bath or general warm bath with mustard, should also be employed as early as possible, since it acts so powerfully as a derivative from the hyperæmic nerve centres, tends to calm the nervous excitement and prevent convulsions. An enema to open the bowels is also proper.

“Should bloodletting be employed, especially in the more sthenic cases? Even in the commencement of the present century, when it was customary to bleed generally or locally in the treatment of inflammatory and febrile diseases, a majority of the American practitioners whose writings are extant, discountenanced the use of such measures in the treatment of this disease. Drs. Strong, Foot, and Miner, though under the influence of the Broussaian doctrine, were good observers, and they soon abandoned the use of the lancet and leeches in the treatment of these patients for more sustaining measures. Strong, who published a paper on spotted fever in the *Medical and Philosophical Register*, in 1811, states that certain physicians employed venesection as a means of relieving the internal congestions, but finding that the pulse became more frequent after a moderate loss of blood, they soon laid aside the lancet. Some experienced physicians of that period, however, continued to recommend and practise depletion, general as well as local, as, for example, Dr. Gallop, who treated many cases in Vermont in the epidemic of 1811.

“No physician at the present time recommends venesection, but some of the best authorities, as Sanderson and Niemeyer, approve of local bleeding in certain cases. It may be stated as a safe rule that leeches or other modes of local depletion should not be prescribed in a large majority of cases, and if prescribed in any case it should be on the first day, for on the first day the maximum of inflammatory congestion is attained, and in no case should more than a very moderate quantity

of blood be abstracted. Blood should only, in my opinion, be abstracted, and in small quantity, from the temples or behind the ears, in the more sthenic cases, in which, after the prompt employment of the other measures recommended, the stupor becomes more and more profound, and the patient appears already in incipient coma. But in allowing a moderate depletion it must not be forgotten that the disease is in its nature asthenic, and in its subsequent course will require sustaining measures. It is apparent, however, that the abstraction of blood if once allowed is likely to be recommended too frequently in the treatment of this disease by those who have had but little experience with it, for the state of most patients in the commencement seems so critical, and the stupor so great, that the most energetic measures seem to be required. But if the blood of patients is spared, and they are promptly and properly treated otherwise, it is surprising to see how many emerge from the stupor and finally recover. For example, in a case related to me by Dr. Griswold, the patient seemed to be comatose for three days, being apparently unconscious and the pupils scarcely responding to light, but he recovered without losing blood. In only one case have I recommended the abstraction of blood, and this was so instructive that I will briefly relate it :—

“M., a female, four years old, was seized at 2 A.M. March 7th, 1873, with vomiting, chilliness, and trembling, followed by severe general clonic convulsions lasting about fifteen minutes. On visiting her early in the morning, I found her semi-comatose, with a pulse of 132, which in a few hours rose to 156; temperature $101\frac{1}{4}^{\circ}$, respiration 44; eyes closed; pupils moderately dilated and responding feebly to light; surface presenting a dusky mottling; constant tremulousness, and frequent twitching of limbs. Four grains of bromide of potassium were ordered to be given every hour to two hours, with the usual local measures—namely, ice to the head and nucha, and a hot mustard foot-bath, followed by sinapisms to the extremities.

“8th. Pulse 136; is partly conscious when aroused, but immediately relapses into sleep; head considerably retracted; bowels constipated; vomits occasionally; temperature 102° . Treatment, a leech to each temple, on account of the extreme stupor; other treatment to be continued.

“9th. The leech-bites bled, though slowly, nearly five hours; pulse 180, and so feeble as to be counted with difficulty; temperature $101\frac{1}{2}^{\circ}$. The patient is evidently sinking. Treatment, a teaspoonful of Bourbon whisky in milk every two hours, beef-tea and other nutritious drinks frequently, also the bromide at intervals. Evening, pulse 172, still feeble.

“10th. Pulse 180, barely perceptible; great hyperæsthesia; temperature of axilla 100° , of fingers and hand below 90° ; axes of eyes directed downwards.

“11th. Pulse still very feeble, varying from 160 to 228; temperature $102\frac{1}{4}^{\circ}$. There has been no intermission in the use of the stimulants or nutriment night or day; pupils moderately dilated and somewhat more sensitive to light.

“After this the patient gradually rallied for a time, so that the pulse became stronger and less frequent, but death finally occurred after nine

weeks in a state of emaciation and extreme exhaustion. Slight convulsions occurred in the last hours.

"It is seen that after the loss of blood from two leech bites, this patient passed into a state of extreme exhaustion so that for three days I did not believe that she would live from one hour to another, and death finally occurred. Although the loss of blood may have been useful in relieving the stupor, yet a worse danger resulted. Experience like this, which I believe corresponds with that of other observers, shows how seldom and with what caution the blood of the patient should be abstracted.

"The internal remedy most in favour with the profession of this city, and justly, in the first stage of this disease, is the bromide of potassium, especially in the treatment of children. Evidently a remedy is required which will diminish the calibre of the arterioles, and consequently the hyperæmia of the cerebro-spinal axis and its meningeal covering. Ergot has been employed for this purpose, and in some instances with a satisfactory result; but bromide of potassium, while it contracts the arterioles of the encephalon, is at the same time a powerful sedative to the nervous system. More than any other safe internal remedy, it prevents convulsions in children, which occurring in this disease, add a passive to the already intense active congestion of the cerebro-spinal axis. This agent in medicinal doses produces no ill effect, except when given frequently for a lengthened period, when it may accumulate in the system. A child of five years may take five or six grains every two, three, or four hours, according to the urgency of the case. After the first week it should be given less frequently, and finally omitted. The practice of some physicians, of continuing the use of the bromide in frequent large doses after the first or at least second week, is to be deprecated, for after a time it is apt to produce symptoms which can with difficulty be discriminated from those of cerebro-spinal fever. These are stated as follows by Mr. Wood: 'Great muscular debility, dimness of sight with dilated pupils, irregular gait, the patient reeling as though intoxicated, whilst nausea, vomiting, or purgation, with abdominal pain of a dull aching character, may also be present.' (*British Medical Journal*, Oct. 14th, 1872.) It is obviously better after the first week, if the symptoms are no longer urgent, to discontinue the bromide entirely than to continue its use in such doses and for such a period that there may be danger of producing its physiological effects. Nevertheless, it is proper to resume its use during periods of recrudescence, which are so apt to occur at any stage of the disease.

"The bromide cannot be depended on to allay the pain which often, on account of its severity, requires immediate treatment, and sometimes it does not allay the excessive agitation. For these symptoms an opiate is indicated, which in my practice has produced a much more satisfactory result than hydrate of chloral. Quite moderate doses are sufficient to produce the effect desired. A patient of six years was quieted by $\frac{1}{32}$ part of a grain of sulphate of morphia. So useful are opiates in allaying pain in this disease, that some observers, as Niemeyer and Ziemssen, consider them the most valuable of the internal remedial agents which we possess, and the benefit from their use in these cases has certainly had considerable effect in disabusing the minds of physicians of the dread

which they have entertained of their employment in acute affections of the brain. Mannkoff and others have employed subcutaneous injections of morphia.

“Quinia is suggested as a remedy by the paroxysmal character of the pains and the fever, but I believe that I am sustained by the general experience of physicians in this city in stating that it has very little effect upon either of these symptoms, or upon the course of the disease. I have employed it in small and large doses, as many as fifteen grains per day to a child of thirteen years, but am not aware that it has been of any service except as a tonic. There is perhaps no better remedy for the nausea than bismuth in large doses.

“Frequent counter-irritation along the spine by dry cups or an irritating liniment is useful from the first, and vesication of the nucha by cantharidal collodion or otherwise when the ice-bag is discontinued. Sustaining measures should also be commenced early. Tonics, vegetable and ferruginous, should be administered after the disease has continued a few days, alternating with and finally superseding the bromide. I have in some cases employed the citrate of iron and ammonia. The diet must be nutritious, consisting of the meat broths, milk, &c., during the entire course of the disease. Most patients require alcoholic stimulants sooner or later. In cases presenting a feeble pulse and other evidences of prostration, their early and continued employment is advisable, as in the case which I have related, in which whisky was administered every two hours after the second day. The constipation is ordinarily best relieved by enemata. The room should be dark, of comfortable temperature, and quiet.”

ART. 15.—*On a Case of Local Softening of the Brain from Thrombosis of Syphilitic Arteries.*

By J. HUGHLINGS JACKSON, M.D.

(*British Medical Journal*, August 30.)

A gentleman, aged thirty-eight, in apparently good health, was first seen in July, 1867, for recent (July 14th) paralysis of the parts supplied by the left portio dura nerve, and for recent partial deafness of the left ear. There were also remains of paralysis of the right leg, which had begun in April. He rapidly got rid of all his nervous symptoms after taking iodide of potassium; but he did not continue the drug, because he believed all his ailments to be owing to ague-poison. He had been in the West Indies, and still remained subject to slight shivering attacks. He had had primary syphilis fifteen years before. He remained well until March 2nd, 1868, when he became hemiplegic of the left side. He would not take any drugs except aperients. Nevertheless, in about a week he was apparently well again; but on March 21st he was found apoplectic and again hemiplegic—this time of the right side. He died next day. At the necropsy, there were found diffused softening of part of the right corpus striatum, and also softening of the left corpus striatum. There was syphilitic disease of each middle cerebral artery. Thrombosis of each at the part diseased accounted for the two local

softenings, and for the two attacks of hemiplegia related to them. The random succession of symptoms in this case was very characteristic of syphilis. Dr. Hughlings Jackson said that the case showed one of the several very indirect ways in which syphilis caused nervous symptoms. The hemiplegia in such a case was dependent directly on softening of the corpus striatum, produced by thrombosis of a syphilitic artery. The "syphilitic hemiplegia" here illustrated was but one of three kinds producible by syphilis. Again, the case showed that recovery would occur from hemiplegia, notwithstanding that the damage which caused that hemiplegia was not altogether repaired. Iodide of potassium was not likely to be useful in such a case of hemiplegia, though syphilitic; while it was useful in cases of recent palsies of cranial nerves. In treating the latter, we were treating recent syphilitic disease; whilst in treating the kind of syphilitic hemiplegia under remark, we were treating local cerebral softening.

ART. 16.—*Researches on the Embolic Processes.*

By Professor COHNHEIM.

(*Untersuchungen über die embolischen Processe.* Berlin, 1872; *Archives Générales de Médecine*, Août, 1873.)

The author conceived the idea of applying to the study of embolism the method of research which had previously afforded such interesting results with regard to inflammation, and which consists in the direct microscopical observation of circulatory disturbances in the frog. The tongue of this batrachian is especially favourable for the study of embolism, as it is traversed longitudinally, on each side of the median line, by an artery and a satellite vein. This artery sends out but insignificant branches towards the median line, but the branches to the lateral portions of the tongue are fairly important: when they have reached the apex of the tongue, the trunks of the two arteries anastomose and form an arch. Towards the base of the tongue a parallel important anastomosis of the lingual arteries takes place.

In order to produce embolic obturation of this artery and its branches, the author employed a fine emulsion of wax coloured by soot. An injection of a small quantity of this solution was made directly into the heart, or into the most internal division of one of the aortic arches, and the branch corresponding to the carotid and lingual arteries; a temporary ligature thrown around the carotid directed the whole of the injected material into the lingual artery.

The animal having been curarized and laid out on the stage of a microscope arranged as in Cohnheim's classical experiments on Inflammation, the following phenomena were observed after the injection.

Never, even in vessels of a relatively considerable calibre, was any coagulum formed around the embolic plug. The course of the blood was accelerated in the collateral vessels placed on the proximal side of the obstacle, and in front of, as well as behind this the column of blood was immovable. When the obturation had been complete and sudden,

there was observed behind the embolus a mass of red mixed with white corpuscles; when, on the other hand, it had taken place gradually and incompletely, the red corpuscles had had time to escape, and there then existed behind the obstacle but blood serum containing a few leucocytes. Occasionally, during a certain period, the arterial branches which arise directly above the obstacle are likewise filled by an immovable column of serum. As to what takes place at the periphery of the obstructed artery, all depends, as has been shown by Virchow, on the existence or non-existence of an arterial anastomosis beyond the obstacle. If an anastomosis exist, the blood will flow very rapidly by this collateral passage in the peripheral distribution of the obstructed artery, and the effects of the embolism will be insignificant. But if, on the contrary, the obstructed artery open directly into capillaries without presenting an intervening anastomosis—if, in short, it constitutes what Cohnheim calls "*a terminal arteriole*"—a total absence of circulation will be established in the whole capillary distribution of the arteriole, and even in the small veins which thence return the blood, as far as the point where this anastomoses with another small vein, beyond which point the circulation is quite free. The blood then flows back from this point towards the capillaries where the tension is almost nil, and soon determines a veritable engorgement of the capillary expansion corresponding to the obliterated artery—an engorgement which is quite visible to the naked eye. This is what, according to the experiments of Cohnheim, can soon be made out in the very trunk of the lingual artery, which frequently becomes a veritable *terminal artery* if its anastomosis with its congener of the opposite side becomes in its turn obliterated. The same result may be obtained by ligaturing the arterial trunk near its origin, after simple suppression of the anterior anastomosis by ligaturing the apex of the tongue. The engorgement in this case is produced by the veins of the base of the tongue.

The engorgement is speedily followed by hæmorrhage. Beyond the walls of the capillaries and small veins may be observed masses of red corpuscles, which appear to the naked eye under the form of reddish lines, constituting the so-called hæmorrhagic infarctions. In these capillary emboli the hæmorrhage is produced as a punctiform deposit, in the centre of which may be found the embolus.

The cause of this hæmorrhage cannot be the augmentation of the intravascular pressure, for it is likewise observed in the capillary emboli when this augmentation does not take place, and moreover it is not accompanied by increase in the transudation of blood plasma. Cohnheim regards as the cause of the hæmorrhage an alteration in the nutrition of the capillary and venous walls under the influence of the suppression of the circulation. To support this view, he refers to some of his experiments, which consist in embracing in a ligature, for a period more or less prolonged, the whole base of the tongue; on the removal of the ligature the circulation is re-established, and then true hæmorrhagic infarctions are formed in the organ. These infarctions are not produced by the simple obstruction of the venous circulation, as was shown by Cohnheim's previous experiments on the effect of ligatures on the veins. The suspension of the circulation affects the integrity of the capillaries and small veins, the walls of which permit diapedesis of the

solid elements of the blood. In what this anatomical change consists remains for the microscope to reveal.

What takes place in the district which is supplied by the obliterated artery? The changes vary according as one has to deal or not with a *terminal artery*. If the artery receive arterial anastomoses beyond the embolic plug, the circulation becomes re-established; all is limited to the lesions produced by the embolus; this body is most frequently organized, and unites with the vascular wall, the remainder of the tissues remaining sound. If, on the other hand, the obliteration take place in a terminal artery, there is almost infallibly necrosis of the tissues corresponding to the hæmorrhagic infiltration.

The organs which possess these *terminal arteries* are five in number: the spleen, the kidneys, the cerebrum, the retina, and the sub-pleural parts of the lungs; hence the frequency of hæmorrhagic infarctions in these organs. This is not to say that infarctions cannot be produced in other regions of the body supplied with ordinary arteries; but in these parts they are due to very numerous embolic obstructions, occupying not only the principal artery, but also the collateral and anastomotic arteries of the region.

Infarction, then, is not due, as is taught by Virchow and Rindfleisch, to a hyperæmia, to a collateral arterial fluxion followed by rupture, but to a venous fluxion, if one may thus express it; that is to say, to reflux of venous blood towards the capillaries. Where the veins are sufficiently well supplied with valves this reflux does not take place, and necrotic infarction is then developed without previous hæmorrhage. The same occurs in regions where the veins do not possess valves, and where, nevertheless, embolism passes directly to mortification without hæmorrhage (this is what is observed in embolic softening of the brain). This absence of venous reflux and of consecutive infarction is due either to rapid coagulation of blood in the veins, or to reduction of the heart's strength, diminishing the *vis à tergo* and rendering reflux impossible.

This mechanism of the production of hæmorrhagic infarctions is proved by the microscopical fact that the summit of the cone of the infarction exactly corresponds, not to the artery, but to the vein of the affected region. Hæmorrhagic infarction, then, is properly a venous lesion, and is but indirectly dependent on the arterial embolus.

On Embolic Abscess.—Hitherto we have considered only emboli which act merely by virtue of their mechanical properties. There is, however, another kind of embolus which has specific irritant or septic properties, and which lead to the formation of abscesses. Thus, whilst in lung, for example, infarctions may be produced only where there are terminal arteries, that is to say, under the serous membrane, the metastatic or embolic abscess may be met with in any part of the organ, even near the root where large anastomoses exist. Infarction results from obturation, pure and simple, of a terminal arteriole; embolic abscess, from the obturation of any arteriole by an infectious embolus. The extent of the embolic abscess depends on the size of the migratory plug, or rather on its degree of virulence.

ART. 17.—*On Enlargement of the Bronchial Glands.**

By NOEL GUÉNEAU DE MUSSY, M.D., Paris.

(British Medical Journal, August 30.)

The enlargement, &c., of the bronchial glands, noticed by the anatomists as very common, has been described by the pathologists only in its most severe forms, and as very rarely met in adults. It is, however, very common. It may complicate all the affections in which the respiratory organs are concerned, and modify both the physical and the physiological symptoms of these affections. It usually produces cough or dyspnœa—in some cases aphonia and vomiting, according to the relation of the enlarged glands to the pneumogastric nerve, or to a portion of that nerve. Protracted whooping-cough, lasting, it may be, several years, is connected with this enlargement. The physical sounds are rubbing, impairment of elasticity, and acute percussion-sound at the upper part of the sternum, the inner part of the first two ribs, the intercostal spaces, and the sterno-clavicularis joint; and posteriorly over the laminæ of the first four vertebræ, usually on one side. On auscultation, there are weakness, acuteness, roughness of the respiratory murmur in one part or in the whole of one lung; generally protracted respiration; sometimes localized sibilant rhonchus; and very often, near to the spine and to the sternum, an expiratory *souffle*, which is the tracheal respiration conducted by the enlarged glands. Sometimes these signs may be modified by the movements of the neck. The treatment recommended was iodine internally, and locally chloride of sodium, arseniate and carbonate of soda, and such general means as improve the lymphatic constitution.

The President, Dr. Sibson, remarked that the instrument for measuring the chest, exhibited by the author of the paper, would be a valuable means of ascertaining the presence of deeply seated aneurisms. The therapeutical results obtained by Dr. Guéneau de Mussy in a disease which might prove fatal were most gratifying.

Dr. Little (Dublin) had found phosphorus in doses of a twentieth of a grain most valuable in reducing enlarged glands. It was sometimes necessary to continue the use of the remedy for some weeks before the desired effects were obtained, and also to attend to the general health.

Dr. Eade (Norwich) remarked on the advantages of phosphoric acid alone or combined. He had not found iodine of much use. He could not look on the disease as due to any one specific cause; its sources must be various. But a special diagnosis of the affection formed a most valuable part of Dr. Guéneau de Mussy's contribution.

Dr. Spender (Bath) also believed, with the author, that chronic pertussis was sometimes kept up by enlargement of the bronchial glands, and that from the same cause swelling of the face followed.

In answer to Dr. Drysdale, Dr. Little replied that phosphorus sometimes produced irritative dyspepsia.

* Read at the Forty-first Annual Meeting of the British Medical Association.

Dr. Guéneau de Mussy said that he used phosphide of zinc in doses of a few milligrammes, in the form of a pill. He had found it to be a more stable compound than phosphorated oil, which did not keep well.

ART. 18.—*The Germ Theory of Disease applied to the Explanation of the Phenomena of Idiopathic Fever.**

By T. J. MACLAGAN, M.D., Dundee.

(*British Medical Journal*, August 30.)

It might be accepted as proved that contagium is particulate and organized. Being organized, it must be animal or vegetable. It was an accepted fact that the contagium is reproduced to an enormous extent in the system. The reproduction of an animal organism is competent to the production of the essential phenomena of idiopathic fever. These are: 1. Increased waste of the nitrogenous tissues; 2. Increased consumption of water; 3. Preternatural heat; 4. Increased frequency of the cardiac action; 5. Increased frequency of respiration. An animal organism consumes oxygen, nitrogen, and water, and gives off carbonic acid.

1. The increased waste, or, more properly, diminished bulk, of the nitrogenous tissues may be due in part to increased disintegration, but is mainly attributable to defective supply, consequent on the consumption by the contagium of particles of the nitrogen which enters the blood from the assimilated ingesta, and which is laid hold of by the contagium at the moment when it is about to pass from the circulating to the organ albumen. The propagation of the contagium takes place in the tissues; and the action which normally results in the formation of tissue, during the continuance of idiopathic fever, results in the formation of the protoplasm of the contagium-particles. This action is identical with that which leads to the formation of tissue, and is accompanied by the same increased flow of blood through the capillaries which would result from increased tissue-action. The contagium arrests the nitrogen requisite to the completion of the *constructive* tissue-changes, but the retrogressive changes go on, and urea is formed in increased quantity.

2. The increased consumption of water is due to the increased demand for that fluid consequent on the propagation of an organism which largely consumes water.

3. Preternatural heat is due to excessive consumption of the oxygen, nitrogen, and water by the contagium. It is immaterial, so far as the production of increased heat is concerned, whether the consumption of these materials result in the formation of tissue or of the protoplasm of the contagium.

4. Increased frequency of the heart's action results from the general hastening of the blood-flow through the capillaries; and this, in its turn, is due to the increased demand for blood in the tissues conse-

* Read at the Forty-first Annual Meeting of the British Medical Association.

quent on the propagation of an organism having wants identical with their own.

5. Increased frequency of respiration may be due to diminished supply of oxygen, or to excess of carbonic acid; to whichever cause it is attributed, the reproduction in the system of an organism which consumes oxygen and gives off carbonic acid is capable of giving rise to it. All the other phenomena of fever which are usually attributed to blood-poisoning are really due to defective supply of nutrient material. The typhoid symptoms, the delirium, and even the convulsions which occur in severe cases, are all of anæmic rather than of uræmic origin. This theory affords a sound pathological basis for that treatment which clinical experience has shown to be most successful, and which essentially consists in giving to the patient what his system is deprived of by the propagation of the contagium, oxygen, nitrogen, and water—fresh air, easily digested nitrogenous food, and water *ad libitum*.

Dr. Ross (Manchester) said that Dr. MacLagan began by explaining the most complex case instead of the simplest. A theory of symptomatic fever might possibly be extended to the explanation of idiopathic fever, but it was perfectly certain that a germ-theory of the latter could not possibly be applied to the former condition, because of the entire absence of germs. Dr. Ross thought that the fever was caused by the rapid growth of protoplasm, and the consequent breaking down of structure. The breaking down of structure was the essential condition of fever, since the forces originally expended in raising it were now in its fall given out as heat vibrations. Dr. Ross doubted the existence of germs in idiopathic fevers. The fallacy arose from not bearing sufficiently in mind the distinction between morphological and physiological individuals. All microzymes were morphological individuals of the same order; but they were physiological individuals of different orders. Some represented the adult condition of these minute organisms; others simply a stage to a higher development; while a third grade was merely formed and detached from the tissues of a higher organism. These corresponded to the actual, potential, and partial physiological individuals of Haeckel, and the microzymes of infected fluids belonged, in Dr. Ross's opinion, to the latter class alone. He had seen microzymes form from the white blood corpuscles.

Dr. MacLagan said that the criticisms of Dr. Ross were directed to the germ-theory as applied to symptomatic fever. The subject of the paper was the same theory applied to idiopathic fever, and during the whole of it no reference was made to symptomatic fever. He believed that his theory was applicable to that form of fever also, and hoped at another time to give his views on this point. He believed that the contagium was often taken into the system through the lungs, and that each contagium gave rise in all cases to its own specific disease, and never to any other.

ART. 19.—*On Hay Fever.**

By M. E. DECAISNE.

(Gazette Hebdomadaire, No. 36, 1873.)

"1. This affection attacks indifferently individuals who mow and gather in hay, and those who are quite strangers to this kind of work, those who are exposed to emanations from forage plants, and those who are not. In short, with no intention of absolutely denying the influence, to a certain extent, on a small number of subjects, of dust or emanations from forage plants, as an aggravating cause of the symptoms, these, in my opinion, play but a very secondary part.

"2. The collected symptoms of this affection may be presented at any season, as a result of overheating or chilling, and especially in emphysematous subjects, whether exposed or not to dust or to irritating emanations.

"3. The annual periodicity which has been supposed to be one of the characters of this affection has not, I think, been proved; a majority of the patients observed by myself remained free from symptoms for many years.

"4. With regard to the dyspnœa, which is generally regarded as a pathognomonic sign of hay asthma, this, according to my view, and that of some other authors, is but a more or less marked extension of the irritation which affects the conjunctiva and the nasal and pharyngeal mucous membranes.

"5. I think that the affection known in England as hay fever, or summer catarrh, ought to be regarded as a catarrhal fever, influenced and modified in its multiple causes, in its progress, and according to individual aptitudes, by atmospheric conditions which produce acute affections of the bronchi.

"6. Finally, I hold that the so-called summer asthma ought to be struck out from the nosological list as a morbid entity."

ART. 20.—*On Albuminous Expectoration Consecutive to Thoracocentesis.†*

By M. FÉRÉOL.

(Gazette Hebdomadaire, No. 24, 1873.)

This phenomenon, observed by Besnier, Woillez, Moutard-Martin, and other physicians, has lately been the subject of an inaugural thesis by Dr. Terrillon, who collected twenty cases, two of which were fatal. M. Féréol endeavours to complete this work by supplying an explanation of the albuminous expectoration which sometimes follows thoracocentesis.

There are four admissible hypotheses: puncture of the lung by the point

* Communicated to the Académie des Sciences, Paris.

† Communicated to the Société Médicale des Hôpitaux, Paris.

of the trocar; spontaneous perforation and direct communication between the bronchial tubes and the pleural fluid; pleural absorption of the fluid, and its passage into the lung and bronchial tubes; sero-albuminous transudation through the alveolar walls, in consequence of rapid pulmonary congestion.

M. Terrillon eliminates the first and the third hypothesis, and admits, in the first place, the possibility of a transudation through the alveolar walls. Still he hesitates to accept this view, and regards as the most probable, if not the demonstrated cause of the albuminous expectoration, spontaneous perforation of the lung, notwithstanding the absence of pneumothorax. This view, he states, will probably be confirmed by future autopsies.

M. Féréol remarks that as autopsies are rare in cases of this kind, we shall remain for a long time uncertain with regard to spontaneous perforation, and he believes that he is in a position to demonstrate by clinical observation that the fluid may pass from the pleura into the lung through fissures without pneumothorax being inevitable. Examples of pleuritic effusions emptying themselves by the bronchi are far from rare. He cites a new case, which is very interesting, but too long to give here. In this case the patient, before any operation had been performed, furnished an abundant expectoration of fluid, resembling *crème au chocolat*, and when, several days later, thoracocentesis was performed, a perfectly identical fluid was obtained by puncture. No sign of pneumothorax was presented by this patient.

Spontaneous perforation during pleurisy frequently occurs in infants, and M. Barthez admits that it is caused by ulceration of the pulmonary tissue which, towards peripheral parts of the lung, has returned to its foetal condition; the fluid passes into the lung from the pleura, and penetrates as far as divisions of the bronchus, where it excites cough, and is thence finally expelled. This lesion M. Féréol calls a pleuro-bronchitic fistula, in contradistinction with the broncho-pleural fistula which results from a preliminary broncho-alveolar lesion, and always determines pneumothorax.

But in regarding together what passes spontaneously in the course of certain pleurisies, and what sometimes takes place after thoracocentesis, M. Féréol finds analogous conditions, and is therefore led to admit that after the operation, and in consequence of the fits of coughing which it provokes, the condensed pulmonary tissue deprived of its functions, and of its normal circulation, for a period more or less long, infiltrated by passive œdema, and having undergone probably a superficial necrosis of a portion of epithelium and connective tissue, may be readily penetrated by the pleural fluid, and act as a temporary filter of this exudation.

M. Féréol, relying on an article by M. Leplat, concerning spontaneous perforations, and one by M. Bernutz, on phlegmon of the anterior wall of the abdomen, thinks that the perforation of the lung and pleura in cases of albuminous expectoration may result from an inflammatory process affecting the pulmonary parenchyma, and associated with the inflammation of the pleura, but at first independent of the pleurisy, in the same way that the pleuro-cutaneous fistula is preceded by a phlegmonous affection of the skin.

M. Féréol does not deny that albuminous expectoration cannot result from broncho-alveolar œdema suddenly developed by the immediate return of the functions of the lung after the operation, but there are facts which oppose this explanation, and which indicate a filtration of fluid through pulmonary tissue, already weakened by a sub-inflammatory process preceding the operation.

ART. 21.—*On Treatment in Cases of Tapeworm and Threadworm.**

By T. SPENCER COBBOLD, M.D., F.R.S.

(*British Medical Journal*, August 30.)

In this paper the author insisted upon a more careful mode of dealing with cases of tapeworm than that which, from the evidences he adduced, appeared to be in vogue. He referred to recent successes obtained in his own practice, and considered that the number of rapid cures might be relatively increased by attention to certain rules of treatment. The first portion of the paper concluded by a reference to one remarkable case, in which the patient had played the part of host or bearer for a period of no less than sixteen years. In the second part of his communication the author remarked on the difficulties attending the curative treatment of ascarides in adults. He explained the reasons why this was the case, and expressed the opinion that radical cures were much more frequent than was commonly supposed. He passed in review the various drugs employed in his own practice, but sought to show that ultimate success was chiefly dependent upon the observance of certain sanitary and prophylactic measures. He relied chiefly upon the exhibition of salines, steel, vegetable tonics, local ablutions, and cold water enemata, the latter often repeated.

ART. 22.—*Remarks on Hæmatozoa.**

By T. SPENCER COBBOLD, M.D., F.R.S.

(*British Medical Journal*, August 30.)

The author called attention to the great interest excited by Dr. Lewis's discovery of worms in the blood of persons suffering from chyluria; and after passing in review some of the more remarkable records referring to the same habits in the case of other parasites affecting man and animals, he referred to his own work and experiences with this class of entozoa. In particular, he dwelt upon the sanitary aspects of the question, in relation to infection, and called attention to the remarkable energy displayed by our Indian sanitary authorities in the matter. He especially referred to the labours of Drs. Cunningham, Lewis, Hewlett, Chevers, and Joseph Fleming. Dr. Cobbold incidentally referred to Professor Leiserung's discovery of a strongyloid hæmatozoon

* Read at the Forty-first Annual Meeting of the British Medical Association.

in the blood of dogs (as brought under his notice by Dr. Schliep, of the German Hospital), and he exhibited three hearts of animals stuffed with entozoa. The first heart was from a dog, which he received from Her Britannic Majesty's Consul at Ningpo, China; the second, also from a dog, was received from Yokohama, Japan, through Mr. Walsh; and the third, that of a seal, was received from Mr. Coughtrey, Demonstrator of Anatomy at the Liverpool School of Medicine.

ART. 23.—*On Albuminous Expectoration Consecutive to Thoracocentesis.*

By M. BLACHEZ.

(*Gazette Hebdomadaire*, No. 30, 1873.)

Under the above heading, a very interesting thesis was written by Dr. Terrillon, in the month of March. In the year 1863 the attention of the profession was directed to this lesion by Dr. Pinault. Analogous cases have been since reported by MM. Despine, Woillez, Marrotte, Behier, Herard, and others. M. Féréol has recently brought this subject before the Society of the Hospitals, and has added some ingenious views concerning pleuro-bronchial perforation without pneumonia. We propose to examine the difficult opinions to which this condition has given rise.

It is generally after thoracocentesis performed under quite simple conditions that this lesion results. After an interval varying from a quarter of an hour to several hours, the patient is attacked with dyspnœa, and expectorates a quantity of yellowish, viscid, and frothy fluid. The quantity is very variable, and may amount to two litres or even more.

One may, with M. Terrillon, admit three clinical forms: a mild form characterized by slight dyspnœa, and a small amount of expectoration, the cough being troublesome; the symptoms take a continuous course, and last for several hours, or even for several days. In the third and severe form there are symptoms of suffocation. The fluid is at first discharged abundantly; the bronchi and trachea are then clogged, the dyspnœa attains its maximum, true asphyxia takes place, and the patient rapidly succumbs. In one case reported by M. Terrillon, death occurred in less than a quarter of an hour. Death, however, rarely takes place in these cases, and out of twenty recorded cases, two only were fatal.

The course of the lesion is very different in the first two forms. The expectoration in the mild form is often very temporary, and disappears in the course of twelve hours. It may in the intense form be prolonged for several weeks, and be repeated after each puncture.

The characters of the expectorated fluid are interesting. It has a yellowish colour, and when allowed to remain for a time, disposes of itself in three successive layers: a persistent and very abundant frothy layer, a layer of yellow and sometimes transparent fluid, which is sometimes mixed with solid expectoration, and a third layer at the bottom of the vessel, which under the microscope reveals the presence of epithelial cells, and some white and red blood corpuscles. When treated with

nitric acid, this fluid presents an abundant precipitate of albumen. Acetic acid gives a precipitate of mucine, due to the presence of bronchial mucus. The characteristic reaction is the albuminous precipitate, which is never present in the fluid of simple bronchorrhœa.

In the cases where albuminous expectoration has been observed, abundant acute effusion has almost always been present. The operations for thoracocentesis had been made under favourable conditions.

One circumstance which seems to be of capital importance has been noted. This relates to the rapidity with which the chest was emptied. In the majority of cases recorded by M. Terrillon, the pleura was rapidly emptied, and as much as possible of the fluid effusion removed.

What is the source of this albuminous fluid? Many explanations have been proposed.

The first is the passage of pleural fluid into the bronchial tubes through a perforation made with the trocar. This opinion is held by MM. Woillez and Marrotte. The former regards the albuminous expectoration as a positive sign of perforation. He concludes that a wound of the lung occurs more frequently than is generally supposed, that the lesion is often latent, and without serious consequences, and that it may be indirectly made out by seeking for the presence of albumen in the ordinary expectoration.

This opinion cannot well be accepted in the presence of recently well-attested facts. And in the first place, the observations of albuminous expectoration deal for the most part with cases where the abundance of fluid prevented the instrument from entering the lung, and when a capillary trocar is made use of, the point of which can be withdrawn, one must admit that the lung could not have been wounded until near the end of the operation, when the organ dilates and approaches the instrument.

In a case recorded by M. Behier, special precautions were taken. The trocar was not introduced by more than four centimetres of its length, and the point was soon withdrawn. At the post-mortem examination it was shown very clearly that the lung had not been touched. Another objection may be drawn from this case in the fact that the bronchial expectoration occurred about a quarter of an hour after the end of the operation, when the pleura was almost empty, the expectorated fluid then surpassing in abundance that which had been evacuated through the canula. It is necessary to admit, then, in cases of this kind, either that a considerable quantity of fluid has been left in the pleural cavity, or that this fluid may be reduced in a very short time. This hypothesis is opposed by the results afforded by percussion.

Besides, the results of a puncture of the lung are well known; issue of some drops of blood, expectoration more or less sanguinolent, acute pain in the chest, sometimes pneumothorax. Have any of these symptoms ever been indicated?

There remains one other objection which seems to be conclusive. Albuminous expectoration may co-exist with purulent pleurisy. This happened in a case reported by Dr. Lande. The effusion was composed of creamy pus, and after each of two operations performed with Dieulafoy's syringe, there was an abundant albuminous expectoration.

One may then reject the explanation by wound of the lung.

Is it necessary to consider the question of spontaneous perforation? It seems to be certain that pleuro-bronchial perforation—namely, a perforation made from the pleura into a bronchial division, may exist without pneumothorax. Dr. Féréol has published an interesting case which proves this. In the pleurisy of infants, when the fluid is ejected through the bronchi, absence of pneumothorax is the rule according to Dr. Barthez.

It may be remarked in the first place, that instances of spontaneous perforation without pneumothorax are rare, except with purulent pleurisy. In admitting their possibility in cases of serous pleurisy, we would understand, with M. Moutard-Martin, that the absence of pneumothorax might be explained by the slowness with which the effusion is discharged; the surplus only being evacuated, and the pleura always in a sufficient state of tension to prevent the entrance of air.

The conditions, however, are very different after thoracocentesis, especially when the pleura has been almost quite emptied. In the first place, it is at the period when most of the fluid has been removed, and when violent cough takes place, that perforation should take place. But albuminous expectoration is always observed at a period more or less remote from the operation. M. Moutard-Martin has recorded a case of spontaneous perforation of the wall of a small cavern. But the accident took place at the end of the thoracocentesis during efforts at coughing, at the veritable physiological moment, and one hour after the operation, when all the respiratory manœuvres were suspended.

It is not then quite rational to conclude with Dr. Féréol as to the identity of the mechanism of perforation in effusions treated by puncture and effusions left to themselves. We have now to explain only the albuminous expectoration that follows thoracocentesis. M. Féréol insists on those conditions of perforation without pneumothorax, only in order to justify a grotesque hypothesis, according to which pulmonary parenchyma in pleurisy is a kind of inert sponge, which is mechanically permeable by fluid. In traversing this novel filter the nature of the fluid may become modified, and therefore it is no longer necessary in admitting a perforation, to prove absolute identity of the two liquids: that in the pleura and that of the expectoration.

These views are, as the author himself acknowledges, pure hypotheses. Ingenious as they may be, they are not supported by a single demonstrated fact.

When, after a lung has been compressed for a certain time by fluid, and it regains, in consequence of the evacuation of this fluid, its normal dimensions, a serous or sero-sanguineous effusion takes place into the organ, and a certain quantity of this serosity may be expelled through the bronchi. This explanation was proposed by M. Pinaut in 1853—it was again brought forward and defended very forcibly by M. Moutard-Martin in a recent discussion on this subject.

This view rests upon physiological experiments. It is well known that section of the pneumogastric nerves determines the presence of a frothy effusion in the bronchi, and sanguineous engorgement of the pulmonary tissues. Longuet insists on the characters of the effused fluid, and has shown that it is composed of two parts: bronchial mucus and serosity. The serosity has its origin in congestion of the parenchyma,

which is consecutive to paralysis of the vessels. Niemeyer also admits that in pulmonary hyperæmia there is produced a fluid and serous alveolar transudation which is very different from the proper bronchial mucus.

According to M. Jaccond, pulmonary œdema results from a serous exudation into the walls and on the free surfaces of the alveoli, a necessary consequence of any pulmonary congestion of a certain duration.

In this treatise on Humours, M. Robin admits that under the influence of congestion of the capillary network on the surface of the alveoli, an exudation may take place of a certain quantity of fluid quite distinct from bronchial mucus.

In a lung which for a long time has been closed against its natural exciting agent, the rapid access of atmospheric air will determine, in the first place, an exudation, and after an interval, a veritable paralysis. The latter will necessarily result in passive congestion with œdema. The period which lapses between the concentration of the pleural fluid and the production of the albuminous expectoration goes to support this explanation. There is no necessity to admit, with M. Moutard-Martin, an epithelial desquamation in the alveoli, which, however, is very possible, and seems to render more probable the fact of the transudation of sero-albuminous fluid.

This last explanation seems then to be the legitimate one, and to be better supported by evidence than any of those previously mentioned.

A practical result may probably arise from this discussion. The majority of practitioners who have specially concerned themselves with thoracocentesis insist on the utility of a slow and incomplete evacuation. They doubt the wisdom of rapidly emptying the pleural cavity. The best means of avoiding accidents would be a partial evacuation only of the effusion at the first operation, and repetitions of the operation at intervals of one or a few days. With the new proceedings of thoracocentesis this plan would be a very practicable one.

ART. 24.—*Some Cases of Hydatid Disease.*

By S. O. HABERSHON, M.D.

(*Guy's Hospital Reports*, vol. xviii., 1873.)

In the *Hospital Reports* for 1860, Dr. Habershon published several cases of hydatid disease. In this volume he places on record four additional instances, because, he says, they illustrate some of the difficulties in diagnosis, and because they show the importance of early and decided treatment when the nature of the malady is ascertained. In the first case the hydatid appeared to have located itself originally in the lung, where it seems to have given rise to so much irritation as to have caused hæmorrhages. During one of these a portion of membrane was expectorated, in which Dr. Moxon detected the plicated foldings of a hydatid cyst. Death in this case was caused by hæmorrhage from a vein which opened directly into the cavity left by the hydatid. The result was more fortunate in the next instance, in which the hydrated cyst was

also expectorated. The symptoms indicated that the disease was originally seated in the liver, that adhesive inflammation on both sides of the diaphragm had taken place, and that the cyst had then made its way into the lung. The diagnosis in the third case was more difficult, for even after the hydated character of the disease was recognised, it was doubtful whether the mischief was located in the kidneys or in the spleen or in the left lobe of the liver. The tumour extended too far into the left loin and into the left hypochondriac region for it to be the left lobe of the liver, but it was more difficult to ascertain whether the kidney or the spleen was affected. The cyst was twice punctured by Mr. Bryant, who drew off on the first occasion thirty-seven ounces of a clear fluid free from albumen, in which Dr. Fagge detected the head of an echinococcus surrounded by a row of hooklets. At the second operation five pints of fluid also containing scolices were removed. A small number of hydatid cysts also came through the canula. The cyst was subsequently washed out with a dilute solution of carbolic acid (two grains to four ounces). The patient finally sank from exhaustion induced by rupture of the sac into the peritoneal cavity. In the last case there was an old hydatid cyst in the liver, which induced perforation of the diaphragm and subsequent pleurisy and death.

The unfavourable termination of most of the instances recorded in this paper, induces Dr. Habershon to believe that if the diagnosis be clear, it is a safer plan to withdraw the fluid early than to trust to the possible death of the hydatid and gradual wasting of the cyst, and in cases also where there is a refilling of the cyst after tapping he regards it as the wiser plan to re-empty the cyst early than to allow suppurative changes to ensue by the indefinite postponement of a second operation.

ART. 25.—*Clinical Remarks on Hydatid Cysts.*

By WILLIAM ROBERTS, M.D.

(*The Liverpool and Manchester Medical and Surgical Reports*, Manchester, 1873.)

The author finds that the fluid of hydatid cysts varies in character according as the cyst contains living or dead echinococci. If the echinococci be living, the fluid is limpid, colourless, or faintly opalescent, with small white granules (broods of scolices or echinococci heads) floating in it, and may be largely albuminous. When the parasite dies, the fluid rapidly changes; it becomes slightly albuminous, and afterwards loses its transparency and becomes thick, white, and opaque, so as to resemble pus in its naked-eye characters.

In a case of hydatid of the liver, Dr. Roberts used large doses of iodide of potassium, as much as thirty grains three times a day, with the result, apparently, of destroying the parasite. The tumour had been steadily growing up to the moment when the patient began to take the iodide, and even for ten days after; then diminution and retrogression commenced, and went on progressively, though very slowly, until the cyst had entirely disappeared.

ART. 26.—*On Tapping in Hepatic Ascites.*

By JOHN M'CREA, M.A., M.D., Senior Medical Officer to the
Belfast Dispensary.

(*Dublin Journal of Medical Sciences*, August.)

The author claims the following advantages for early tapping in hepatic ascites:—

1. It relieves intra-portal pressure. The backward pressure generated in the portal system by hepatic obstruction seeks vent in various directions. In one man diarrhœa, in another bleeding piles, and in another an ulcerated leg relieves the liver. It is unfortunate if the *vis medicatrix naturæ* makes a therapeutical error, and causes a hæmatemesis. It is not quite so bad if the peritoneum is the safety valve. Tapping unweights this valve, and relieves intra-portal pressure.

2. The removal of the pressure which the effusion exercises on the liver will facilitate the development of collateral circulation through the more healthy parts of the viscus.

3. The relief of the abdominal tension will make it easier for the vena cava, vena azygos, and parietal abdominal veins to establish a collateral circulation between the abdomen and the chest.

4. The removal of tension from the vena portæ and its branches will promote the absorption of remedies.

5. We clear away an impediment in the way of the digestion and absorption of nutriment, which must be seriously affected by abdominal distension.

6. We relieve the kidneys, and these organs are not slow to exhibit signs of relief by increased activity after each tapping.

7. In ordinary cirrhosis we relieve the liver of a pressure that is assisting the morbid processes, which produce contraction.

8. We keep relieved other important organs, the distress of which makes tapping, at least, an absolute necessity.

9. We avoid the danger of typhoid peritonitis, which sometimes attends late tapping.

The doctrine of delay is put by Murchison thus:—"When the ascites has embarrassed the breathing, and not till then, you must draw off the fluid by the operation of paracentesis. The tapping may have to be repeated, but the rule is always to delay it as long as possible, until, in fact, there is danger of the respiratory function becoming seriously interfered with by the pressure of the fluid." The reason which he gives is to avoid the great drain of albumen. And yet, he says, that the operation frequently causes the albumen to disappear from the urine. "Surely this," Dr. M'Crea writes, "is considerable compensation. Besides," he adds, "the pressure of the fluid cuts off the supply of fresh albumen to the system, by interfering with assimilation." Frerichs puts the same argument for delay in a slightly different shape. He says that the pressure of the ascitic fluid on the vena portæ lessens the rapidity of effusion, and that by paracentesis we give up this advantage. If it be an advantage it is easy to retain it; a tight binder could be used throughout the intervals between theappings to keep up the pressure.

But would this be judicious? It is noteworthy that in many of the cases recorded by Frerichs, the high pressure generated in the portal system broke out in the gastro-intestinal tract in a flux, which was the immediate cause of death.

ART. 27.—*On the Pathology of Infarctions and of the Inflammatory Processes in Septicæmia.**

By M. V. FELTZ.

(*Archives Générales de Médecine*, Août, 1873.)

The comparative study of infarctions caused by the introduction into the blood of organic or inorganic material, and of infarctions due to the inoculation of septic substances, prove that all infarctions pass through the same retrogressive metamorphoses, but that the pathological processes differ in the zones of elimination. If, in the former case, leucocytic degeneration at the expense of the cellular substance (protoplasm) be the rule, the same does not occur in the second case, where in this substance is established a granulo-fatty or colloid degeneration, which causes a destruction of tissues at least as rapidly as suppuration.

The infarctions of septicæmia proceed from capillary hæmorrhages dependent on arrests in the circulation, which arrests are determined by morphological and chemical changes in the blood. From this point of view the infarctions of purulent infection differ markedly from the infarctions of septicæmia. In the former case, the vitiation of the blood is secondary and in some sort mechanical, and is induced by the introduction into the nutritive fluid of organic material; in the second case, the morbid change of the blood is primary, and is that which gives rise to chemical and morphological changes, leading to the formation of infarctions. In septicæmia infarctions rarely lead to metastatic abscesses, because almost invariably the morbid change in the blood is so intense and so sudden that it causes death before the infarctions have had time to soften and to pass into that state which is called suppuration.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 28.—*On Unilateral Pulmonary Apoplexy in its Relations to Cerebral Hæmorrhage.*

By Dr. AUGUSTE OLLIVIER.

(*Archives Générales de Médecine*, Août, 1873.)

“It has been known for a long time that, after section of the pneumogastric nerves in animals, the lungs may become the seat of effusions of blood.

“To Dr. Brown-Séquard belongs the honour of having demonstrated

* Communicated to the Académie des Sciences, Paris.

by numerous experiments the almost constant occurrence of veritable hæmorrhages in the thoracic and abdominal viscera after lesions of different parts of the base of the encephalon, and of certain parts of the encephalon itself.

“According to this eminent physiologist, these hæmorrhages are habitually situated in the lungs, the muscular tissue of the heart, under the pleuræ and pericardium, and in the supra-renal capsules and kidneys. They are most frequently met with in the lungs. When the lesion is exclusively limited to one-half of the protuberance, the hæmorrhages are found particularly in the lung of the opposite side, but also, in a much less degree, in the lung of the same side.

“Dr. Brown-Séquard admits that rupture of the blood-vessels, which gives rise to these hæmorrhages, is due either to a simultaneous contraction of the veins and arteries appertaining to certain capillaries, which, being immoderately distended, burst and give rise to hæmorrhages; or (and this is much less probable) to a contraction of the small veins only, which causes an accumulation of blood in the capillaries, and consequently rupture of the latter.

“Dr. Brown-Séquard thinks, however, that the rupture of the capillaries is due to irritation of the nerves of the blood-vessels, consequent on lesions of the pons Varolii and other parts of the base of the encephalon. He has demonstrated by experimentation such an amount of contraction of the blood-vessels in certain parts of the lung that the parts seemed absolutely exsanguine.

“I arrive now at another question which is not less interesting, and concerning which the opinions of physiologists have long differed. What is the track followed by those vaso-motor nerves which, setting out from the injured part of the encephalon, make their way to the lung in which hæmorrhage takes place? M. Schiff and Dr. Brown-Séquard maintained that these nerves descended with the fibres of the pneumogastric, but the latter physiologist in more recent experiments succeeded, after dividing the vagi and irritating the proximal ends, in producing pulmonary hæmorrhages, whilst nothing of the kind was observed after irritating the distal extremities. He concluded from these results, and still holds to this conclusion, that the vaso-motor nerves of the lungs, and also those of the heart and other viscera, pass through the cervical portion of the spinal cord and the first thoracic ganglion. Moreover, he maintains that the vaso-motor nerves of the thoracic and abdominal viscera do not come from the elongated portion of the spinal cord, as is generally supposed, but rather from the pons Varolii and the parts which are placed around and above, especially the different peduncles.”

ART. 29.—*On the Differential Diagnosis of Cerebral Apoplexy and Embolism.*

By Dr. ADOLF SCHMIDT, of Erlangen.

(*Deutsches Archiv für klinische Medicin*, x. 3; *Schmidt's Jahrbücher*, No. 6, 1873.)

As a proof that a sure differential diagnosis between these two processes is impossible, and that even a probable diagnosis should be made

with great caution, the author reports two cases of cerebral embolism which occurred in the Erlangen clinic. The patients were both old women, and presented what are the usually described symptoms of apoplexy—namely, advanced age, rigidity of the arterial walls, left-sided hemiplegia, absence of any history and indications of any previous cardiac disease or of severe general affection affecting the whole organism. In both cases there was loss of consciousness lasting over two days, and great intensity of the paralysis.

In one of these cases the autopsy revealed slight stenosis of the mitral valve, of which there had been no symptoms during life, and embolism of the artery of the right Sylvian fissure. In the other cases there was a thrombus in the right internal carotid, extending as far as the intracranial portion of the vessel, advanced sclerosis of the cerebral arteries, and great development of the posterior communicating, and the right posterior cerebral arteries.

ART. 30.—*On Apoplexy of the Pons.*

By Dr. G. JUDELL, of Hamburg.

(*Berliner klinische Wochenschrift*, ix. 24 ; *Schmidt's Jahrbücher*, No. 3, 1873.)

In a post-mortem examination of a female, aged forty-four years, who died from facial erysipelas seven months after an attack of hemiplegia on the right side, the following condition was presented: in the anterior portion of the left half of the pons in front of the origin of the left facial nerve were two cysts, each of the size of a cherry-stone, filled with a milk-white pultaceous material; one of these reached as far as the left cerebral peduncle.

In this case the hemiplegia had occurred suddenly without any loss of consciousness; four days later there was intense paresis of the right leg, whilst the right arm remained completely paralysed; the tongue was directed to the right side, and the movements of the organ and also articulation were disturbed. There was no palsy of the facial nerve. The pupils were much contracted, but reacted well to light.

Under treatment by faradization the paralytic symptoms were considerably relieved, and the condition of the pupils became normal. A month before death, symptoms of cerebral irritation came on, and these were subsequently associated with fever and decubitus, and finally with fatal facial erysipelas.

ART. 31.—*On the Modes of Causation of Epilepsy and other Convulsive Affections at Different Periods of Life.*

By H. CHARLTON BASTIAN, M.D., F.R.S.

(*British Medical Journal*, August 30.)

The author used the word epilepsy in the broader sense of the term, and also included the consideration of certain allied convulsive affections,

commonly known under the name of eclampsia. His views were founded principally upon notes of upwards of 300 cases of these affections, which had come under his own care. After commenting upon the uncertain use and wide meaning of the words "cause" and "causation," as applied to particular diseases, the author pointed out that the "causation" of epilepsy and allied affections had to be considered under three main divisions. 1. The proximate cause of the fit, *i.e.*, the actual condition of the nervous system which is brought about in all cases, and upon the occurrence of which the fit immediately depends. This was the physiological aspect of the question, into which the author did not enter. He confined his remarks to the more purely medical aspects of the problem, included under the two remaining divisions. 2. Predisposing causes; 3. Exciting causes. The "predisposition" to attacks of this kind may be acquired during the life of the individual, or it may be born with him; that is, he may inherit a tendency of this kind from some of his ancestors. In this state there is an increased mobility of the nervous system, and a lack of control in the higher centres. After considering the modes in which such a predisposition may be acquired during the life of the individual, Dr. Bastian entered fully into the consideration of the different "exciting causes" of epilepsy and other convulsive affections, showing how these varied at different periods of life, and what was their relative importance at these different epochs.

ART. 32.—*On the Dynamics of Epilepsy and Convulsions.*

By J. THOMPSON DICKSON, M.A., M.D.

(*Guy's Hospital Reports*, vol. xviii., 1873.)

In a paper on the above subject, Dr. Thompson Dickson advocates the view that all excito-motor affections are the resultants of two factors—the first, loss of cerebral control; the second, an excitant. Both factors, he says, are always present in convulsions, whether the convulsion be local or general, in epilepsy and eclampsia, though the second may be so far wanting as to render the chain of symptoms, as commonly described, incomplete. The cord capable of reflecting excito-motor stimuli under certain circumstances, must be considered as extending from the united thalami optici and corpora striata to the caudal extremity of the medulla spinalis. The normal influence exerted by the cortex of the brain on the excito-motor apparatus is one of control, an influence exerted more or less through the simple agency of volition or will, which presumably is capable of controlling an impulse to most involuntary movements, such normal reflex acts as deglutition and ejaculatio seminis, whose centres of action are out of connexion with the cortical grey matter, being of course excepted. The occurrence of local convulsions the author explains by supposing that the power of control (by excision, tumour, abscess, or other means of destruction of tissue) is cut off from a limited area of the brain's surface.

Dr. Dickson thinks that the proximate cause of excito-motor action is to be sought for in some alteration in the circulation of the brain, but he agrees neither with Dr. Marshall Hall, in believing that this alteration depends upon an impeded flow of venous blood from the brain, nor

with Mr. Solly, in considering it to be due to an active determination of blood to the head. He holds, on the contrary, that the condition really present is cerebral anæmia. In support of this view he refers us to observations, made in slaughter-houses, where animals are put to death by bleeding, the effect of which is always to produce convulsions before death. This was at first explained by the assumption that muscles contracted spasmodically when deprived of blood, but the fallacy of this opinion has been demonstrated by Kussmaul and Tenner, who have shown that deprivation of the brain of arterial blood by tying the vessels of the neck will produce all the effects as perfectly as, or more perfectly than, depletion. This conclusion has been rendered still more certain by the study of the brain by Donders's method, which consists in inserting an air-tight window into the skull and observing the brain through it. It is then found that on compression of the large arteries of the neck complete anæmia of the brain and its membranes ensues, and this continues until the convulsion begins, when the venous anæmia partially subsides, though the arterial and capillary anæmia is unaltered. Indirect evidence in favour of the same view is furnished by the blanched anæmic appearance of the face and neck on the invasion of an epileptic attack, which must correspond with the condition within the skull. Moreover, convulsions are produced by the injection of water into the circulation.

The invasion of unconsciousness in epilepsy is always sudden, and it may be explained by supposing that under the influence of some irritant and instantaneous contraction of the smaller arterial vessels takes place. This irritant may be a tumour or an abscess seated within the cranium, or it may be contained in the blood, or may act upon the medulla spinalis from some of the parts of the body. The author regards the loss of consciousness which takes place in apoplexy as also caused by anæmia of the brain, the extravasated blood in this case acting as the irritant. Niemeyer has long held the view that apoplectic stupor was due to this condition, but he explains its occurrence differently.

Dr. Hughlings Jackson has recently advanced the theory that from the seat of pathological lesions discharges are sent out, which are distributed to certain muscles in the case of local affections, and to the muscles generally in the case of a general affection. Dr. Dickson maintains, on the contrary, that when control over certain muscles is lost or diminished by destruction or injury of a portion of the surface of the brain, involuntary or convulsive movements will occur in these muscles from reflex excitation. The muscles, he says, contain a power of contraction in themselves, irrespective of mandates from the cerebrum, and convulsive movements may be induced in a warm-blooded animal after the whole of the cerebrum has been sliced away.

ART. 33.—*On the Causes and Treatment of certain forms of Sleeplessness.*

By DYCE DUCKWORTH, M.D.

(*British Medical Journal*, August 30, 1873.)

In this communication the author called attention to certain forms of insomnia that appeared to have escaped the attention of many

systematic and special writers. In especial, it was shown that a most common cause was dyspepsia occurring at night. The peculiarities and clinical facts of this nocturnal dyspepsia were discussed, and its relation to atonic dyspepsia was pointed out. The insomnia due to excessive use of tea, coffee, and tobacco was described; also that due to bodily and mental exhaustion. The appropriate treatment of the forms of dyspepsia, and of the sleeplessness resulting was fully dwelt upon. The insomnia due to over anxiety or prolonged loss of sleep—the “insomnia of bad habit,” was next discussed; while that form due to the presence of certain odours, and of defective hygrometric conditions of atmosphere was also treated. Remarks were made as to posture, and the condition of the cerebral circulation during sleep, and, lastly, the methods of treatment for the varying causes of insomnia were discussed at length.

Dr. Gairdner (Glasgow) doubted whether the indigestion were the cause of the sleeplessness. He rather thought the dyspepsia and the insomnia were due to a common cause.

ART. 34.—*Neuralgia and Kindred Diseases of the Nervous System.*

By JOHN CHAPMAN, M.D.

(*Neuralgia and Kindred Diseases of the Nervous System*, pp. 512.
London, 1873.)

The following is a summary statement of the author's theory, given in his own words:—

“(1.) That pain, whatever may be its exciting cause, and whatever may be the structure in which it is felt, is, like ordinary sensation, a phenomenon of functional change in the sensory centre into which the affected nerve is rooted.

“(2.) That the nature of the functional change denoted by ordinary sensation and the nature of that denoted by pain are essentially identical, the difference between the two being only a difference of degree of rapidity or intensity with which the change occurs.

“(3.) That pain, like ordinary sensation, is of various degrees of intensity, and that whereas pain denotes a more rapid functional change in the affected sensory centre than occurs during ordinary sensation, the successively higher degrees of intensity of pain are expressive of successively higher degrees of rapidity of functional change in the functioning sensory centre.

“(4.) That whereas an indispensable condition of those functional changes in the sensory centre which are comprised within what may be termed the ordinary sensory scale is a normal supply of arterial blood, in order to provide for those transformative changes which are at once chemical and nutritive, and which constitute the groundwork and possibility of functional change, so a supply of arterial blood greater than normal is an indispensable condition of those more intense functional changes in the sensory nerve centre comprised within the wide range of what may be called the neuralgic, or more generally, and perhaps more correctly, the *algic* scale.

“(5.) That pain is not necessarily a morbid phenomenon; that in its

beginnings it is rarely, if ever, so in otherwise thoroughly healthy organisms; but that if, in such organisms, the operation of its exciting cause be long continued, it will induce in the affected sensory centre a habit of morbidly intense functional activity, so that at length, when that habit is generated, it will persist even after its cause is removed.

“(6.) That a neuralgic habit thus generated may be transmitted hereditarily; and that, though it may remain latent during a considerable time, it may be suddenly lighted up by some exciting cause, so slight as to escape observation, and thus constitute in the second generation what is sometimes designated spontaneous or idiopathic neuralgia.

“(7.) That the general doctrine expressed in the foregoing propositions in respect to pain is, *mutatis mutandis*, applicable to the several phenomena constituting the complications of neuralgia, which consist generically in disorderly actions of muscles, voluntary and involuntary, of morbidly excessive action of glands, and of disorderly processes of local nutrition.”

The principles of “neuro-dynamic medicine” are thus stated:—

“(1.) That the chief function of the sympathetic nervous system consists in regulating the diameters of the blood vessels throughout the body.

“(2.) That when the sympathetic ganglia are in a state of maximum hyperæmia, the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

“(3.) That when the sympathetic ganglia are in a state of maximum anæmia the nervous effluence from them to the coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become, consequently, extremely relaxed, and as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

“(4.) That when the spinal cord is in a state of hyperæmia, cramps of the involuntary muscles surrounding the alimentary tube; cramps, or even convulsions, of the voluntary muscles; an excess of glandular activity; and an excess of sensibility (hyperæsthesia) are likely to ensue.

“(5.) That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*), emerging from the cerebro-spinal system, and distributed to its secreting cells, in order to regulate its functional activity; and of another motor nerve (which I call the *negative motor*), emerging from the sympathetic system, and distributed to its artery, or arterial twig, in order to regulate its blood supply.

“(6.) That in the same manner as glands are supplied with positive, as well as with negative, motor nerves, so there is reason to believe every tissue of the body is thus supplied, and is thus placed and sustained in a state of eclectic affinity for the elements of the blood requisite for its nourishment and functions.

“(7.) That the sympathetic ganglia and the spinal cord can be

rendered hyperæmic or anæmic artificially, by means of heat in one case, and cold in the other, applied along the spine.

“(8.) That cold applied along the spine will subdue cramps or excessive tension of both voluntary and involuntary muscles, will lessen sensibility, will lessen secretion, and while increasing within certain limits the general circulation and bodily heat, is capable, by prolonged use of lessening textural nutrition.

“(9.) That heat applied along the spine will (in some cases) induce cramps of the voluntary and involuntary muscles, will increase sensibility, will increase secretion, and will lessen the general circulation and bodily heat.”

ART. 35.—*Treatment of Nervous or Sick-Headache.*

By P. W. LATHAM, M.D., F.R.C.P.

(*On Nervous or Sick-Headache: its Varieties and Treatment.* Pp. 71. Cambridge. 1873.

With regard to treatment, Dr. Latham says this should vary according to the stage of the disease. When the patient is suffering from disturbed sensation, such means should be adopted as will increase the flow of blood to the head, and this can be best accomplished by posture and stimulants. The patient should lie down with his head as low as possible on the side opposite to that on which the glimmering has appeared. A glass of sherry, or an appropriate dose of some one of the diffusible stimuli, should be administered. During the stage of headache, if this be severe, absolute rest and quiet are enjoined. Where the exciting cause of the attack appears to be an error of diet, an emetic or purgative may relieve the symptoms. The author has also used, with advantage, hydrocyanic acid, chloroform, bromide of potassium, aromatic spirit of ammonia, and cold tea. The remedies which he recommends to be given during the intervals of the attacks are cod-liver oil, the bitter and ferruginous tonics, and strychnia. He has also used guarana, but has found it to be useful only when administered early in those cases in which the premonitory stage lasts for some little time. Where, on the other hand, the headache is developed suddenly, it is, he thinks, far less efficacious than many other medicines.

ART. 36.—*Hysterical Anorexia.*

By Sir W. GULL, Bart., M.D.

(*British Medical Journal*, November 1.)

At a meeting of the Clinical Society of London, October 24th, Prescott Hewett, Esq., President, in the chair, Sir W. Gull read a paper on the above subject. He said that in the Address in Medicine delivered at the meeting of the British Medical Association at Oxford in August, 1868, and published at the time in the medical journals, he had referred to

a form of disease occurring mostly in young women between the ages of fifteen and twenty-three, and characterized by extreme emaciation, and often supposed to be due to latent tubercle, mesenteric disease, or so-called atrophy. This state he proposed at the time to call *aepsia hysterica*, and added in a note appended to that address:—"I have ventured to apply this term to the state indicated, in the hope of directing more attention to it." In the paper now brought forward, the word *anorexia* had been preferred to that of *aepsia*, as more fairly expressing the facts, since what food is taken, except in the extreme stages of the disease, is well digested. Dr. Laségue's of La Pitié Hospital, Paris, in April last published remarks on this state (translated into the *Medical Times and Gazette* of September last), which he also called *anorexia hysterica*. Dr. Laségue seems not to have known of the reference to this morbid condition which was made by the author of the paper at the time named; therefore Dr. Laségue's observations are the more confirmatory, having been made from an independent point of view. The author believed that the want of appetite was due to a morbid mental state. He had not observed, in the special cases in question, any gastric disorder to which the want of appetite could be referred. He believed that the origin was central, not peripheral. It was notorious that certain mental states were apt to destroy the appetite, and it would be admitted that young women of the ages named were especially obnoxious to mental perversity. We might call the state hysterical without committing ourselves to the strict etymological value of the word, or maintaining that the subjects of *anorexia hysterica* had any of the common symptoms of hysteria proper. The author then gave details of two well marked cases of this malady, with photographs of the patients in the stage of extreme atrophy, and after they had recovered their weight and strength. In the starvation stage, when the patients were for the most part brought for advice, all the functions were found to be below the normal standard, but otherwise normal. Temperature half a degree to a degree below normal; respirations 12; pulse 56 to 60. An examination of the viscera of the chest and abdomen discovered nothing texturally abnormal. In fact, the clinical characteristics were those of starvation only, without any signs of visceral disease. It was remarkable how long this condition often continued, and with how little change in the vital functions, the pulsations and respirations remaining at the low standard named for a year or two or more. Such patients, though extremely wasted, complained of no pain, nor, indeed, of any *malaise*, but often were singularly restless and wayward, if the prostration had not reached its extremest point. In one case only had a fatal issue occurred, though sometimes the exhaustion was so great as to make possible recovery seem very doubtful. In this fatal case, thrombosis took place in the femoral veins; the patient became feverish, and died. Death followed from the thrombosis and the starvation only. The post-mortem examination discovered no tubercular or other lesion. The author insisted that the diagnosis of these cases was to be made from the slowness of the pulse and breathing, from the slightly depressed temperature, and the absence of any sign of visceral disease in the chest and abdomen; whilst the emaciation was explicable by the fact of chronic starvation. In reference to treatment, he contended that the

patients require moral control; and that if possible, a change in the domestic relations should be made; that, from the beginning, food should be given at short intervals; and that patients should not be left to their own inclinations in the matter. If the exhaustion had reached an extreme point, then it might be necessary to apply external heat to the body, as well as to administer food; as Chossat had long ago shown that starved animals, when the inanition was extreme, could not digest food without the aid of external heat. One of the best ways of applying heat in such cases was that suggested by Dr. Newington of Ticehurst, by an india-rubber tube, having a diameter of two inches and a half, and a length of about four feet. This tube, filled with hot water, and placed in the bed along the spine of the patient, is often of great value. The author had not observed much advantage from the administration of drugs, whether tonics or alteratives. Believing the disease to be due to a want of mental equilibrium, he would rather trust to moral influences and to feeding than to medicines, though these might still be amongst the *adjuvantia*.

Dr. Quain was very glad Sir William Gull had brought forward this subject, for these were cases with which he (Dr. Quain) had been long familiar, and which he thought of great interest. His experience, however, differed from Sir William Gull's in this respect, that some of the case she had seen were more severe than those narrated in the paper, and he saw no evidence in some of them to connect them with a merely nervous origin. In fact, the words "anorexia hysterica" were but names. He narrated one case which he regarded as typical. Some years ago, a young lady who was gradually losing all inclination for food was sent to him from Lancashire. The disinclination for food progressed, and became so great that at last she altogether ceased to take food. She was an amiable girl, and by no means of a nervous temperament. She became so reduced, that in appearance she resembled nothing so much as one of the mummies in the British Museum. The skin of the front of the abdomen became so sunken that it reached the backbone; the abdomen contained almost nothing; and the bones everywhere seemed covered with skin only, a bed sore exposing the sacrum. She lost all power of voluntary movement, and at length became insensible. Under the persevering use of essence of beef-tea, flavoured with cloves to resemble medicine, with the brandy mixture of the *Pharmacopœia* in the intervals, she rallied and recovered. After a time, a slight relapse occurred; from which she again recovered. A few months ago, Dr. Quain was consulted with regard to her marriage, she being then in perfect health. Now that, which was the worst case of the kind witnessed by Dr. Quain, for which reason he had narrated the particulars, could not be called "hysterical;" there was simply a loathing of food. Dr. Quain had always looked upon these case as due to some local condition of congestion of the mucous membrane, and was inclined to consider the real cause as peripheral rather than central.

Dr. Greenhow mentioned two cases in which he had been consulted; and in his treatment always insisted upon the necessity of making an alteration in the moral surroundings of the patient. Called to see a young lady at St. Leonards, emaciated to the last degree, he had at once

arranged for her removal from home to the house of a private family near London, where the whole course of her daily life was changed. She shortly began to eat, and in six weeks was well. She had a relative who was of unsound mind. Dr. Greenhow's second case came of a family in which insanity existed. The girl was greatly emaciated; but, upon being removed to the house of a doctor, she at once improved. She then returned to her family, and had a relapse; but, upon removal from home, again recovered. From the day that the moral surroundings were altered, she became better. The moral management of these cases is to be insisted upon; medical treatment is of little use.

Mr. Brudenell Carter had, many years ago, witnessed the great success which attended the late Mr. Mackenzie's treatment of these cases by the taking of them from home, and therefore advocated the moral management of the patient. The beginning of the disease is a desire to obtain sympathy from friends; for this purpose, some repulsive idea is conjured up by the fancy when food is presented, so that it is set aside with abhorrence. In one case which had come under Mr. Carter's observation, the patient always thought of putrid cat-pudding when pressed to eat; thus food caused her to vomit, and she gained her own way. At length, however, the vomiting beat her; then she became frightened, and gave in, confessed how she had caused the dislike for food, began to eat, and recovered.

Dr. Poore inquired if any of the symptoms proper to starvation were present in any of the cases. It would be remembered that, in the case of the Welsh fasting girl, when the patient was watched and food was really withheld, she soon became restless, her temperature and pulse rose, and she had fœtor of the breath.

Dr. Symes Thompson thought it difficult to draw a line between these cases and certain cases of insanity in which disinclination for food is a prominent symptom. A patient, about whose sanity he had been consulted, was put under restraint and sent to Bethlehem Hospital, as otherwise she would have starved herself to death. She at once improved, and after six or eight weeks was sent home. She became worse, and finally succeeded in starving herself to death. Starvation is often, as in such a case, the most manifest sign of insanity. Dr. Thompson considered that there was no symptom of hysteria in the cases they had discussed; the malady was more mental than physical.

Dr. Greenhow stated that, in both the cases attended by him, there was restlessness at night, but the temperature and pulse were not elevated. There was no mental alienation in either case; but simply a disgust for, and inability to take, food.

Dr. Theodore Williams thought Sir William Gull's cases exhibited disease of the mind rather than disease of the body. He asked whether the introduction of food into the patient's stomach against her will would fatten the body? Is fattening of the body possible against the patient's will? He advised recourse to the use of nutrient enemata in extreme cases.

A Member narrated the case of a young lady whose tastes varied; at one time she exhibited a great aversion to Bibles, then she passed on to show a strong dislike to food. She had none of the ordinary symptoms of hysteria, and seemed to require no sympathy. Her father had died "out of his mind," as it was said.

Dr. Edis spoke of a young lady who had lost a dear relative, and had disgust for food. She was accounted insane, and was sent to an asylum. Refusing food at the asylum, she was nourished with enemata. At first she seemed apathetic, but soon began to take a little food by the mouth, and quickly recovered. Removal from friends, and perhaps the giving of enemata, are chief points in the treatment.

Dr. Quain begged to mention another case, one of the earliest he had seen, in which this loathing of food existed, and which, after the patient had been reduced to a state of extreme emaciation, was relieved by a copious discharge of fluid by vomiting and diarrhœa. The recovery in that instance dated from that event, and seemed to show that it was due to some relief of congestion by this spontaneous discharge. In some of these cases no special sympathy was sought for by the patients; they greatly desired to get well. It was not that they would not, but they could not, take food.

Sir William Gull would not insist on the etymological meaning of hysteria, in applying that term to these cases. The nervous equilibrium of the patient is not quite right. Still, it would be unfair for the doctor to go into the world and say that they are of unsound mind. Some of the patients certainly had other symptoms of hysteria. Sir James Paget had seen one of the cases after her recovery from anorexia, and she was then suffering from hysterical hip-joint. The disinclination to take food seemed to be due to some vagary of the pneumogastric. Many nerves of the trunk may take on hysterical action without much damage to the individual, but when the pneumogastric is so affected the results are serious. It is evident the patient must be prevailed upon to take food by some means or other. There seems to be some hysterical condition of the pneumogastrics which Sir William Gull considers to be of central origin. There is no congestion of any part; the tongue is clean, urine clear. Then, as to the evidences of starvation, the Welsh fasting girl died not of starvation but of urinæmia, after being deprived of drink for six days. Had only water been allowed her, she would have lived much longer. Without air, an individual lasts about four minutes; with air, but without food or water, he lives about eight days; deprived of food only, he lives for forty or fifty days. The cases which Sir William Gull had described were not strictly insane; there was, however, something wrong in the nervous equilibrium, and usually something queer in the family history.

ART. 37.—*On Progressive Locomotor Ataxia.*

By W. B. DRINKARD, M.D., Professor of Anatomy in the
National Medical College, Washington.

(*American Journal of the Medical Sciences*, July.)

Dr. Drinkard is of opinion—

1st, That strychnia offers at least as much chance of amelioration in locomotor ataxia as any other remedy that has yet been tried in this disease, and that its benefits may be more promptly and decidedly obtained by the hypodermic method than by its internal use. Moreover, the

tolerance exhibited to the use of the drug, verified by his own experience and by the numerous recorded instances of its employment in ophthalmic practice, justify him in thinking that the amount may be increased far beyond gr. $\frac{1}{32}$ twice daily, and with proportionate increase of beneficial effect.

2nd, That without denying to morphia, especially as administered hypodermically, its place as the sheet-anchor in this terrible disease, whose frightful and characteristic pains will yield to nothing else apparently, we must yet be even more on our guard in administering it than we usually are. For even if there be not a special tolerance of opium and of all sedatives and narcotics in locomotor ataxia, as there probably is of strychnia in this and other conditions of nervous tissue-change, the severity of the pain itself may increase its toleration, and encourage the continued use of larger and larger doses; until, finally, relief can only be obtained by an amount conceivably incompatible with life, or the patient sinks, killed as much by the drug as by the disease.

ART. 38.—*Notes of a Case of Duchenne's Pseudo-Hypertrophic Muscular Paralysis, with Special Reference to the Temperature of the Overgrown Limbs, and with General Remarks.**

By WILLIAM MILLER ORD, Assistant-Physician to St. Thomas's Hospital.

(*The Lancet*, Nov. 8.)

The patient, a child of seven years, had suffered for two years from progressive weakness of the back and lower limbs, of which no exciting cause was known. There was no impairment of the mental faculties, but the child constantly fell while walking, and could not get up again without seizing some firm support by the hands. The sacro-spinal muscles and the muscles of the thigh were thin and poor, but the calves were distinctly overgrown. The observation to which attention was specially directed was, that the calves were distinctly warmer than the thighs by from $1\cdot9^{\circ}$ to $3\cdot9^{\circ}$ Fahr. The fibres of the muscles, being removed by an *emporte-pièce*, show no material deviation from a healthy structure, certainly no degeneration; but there appeared to be an increase of the white fibrous element between the primitive fasciculi. It was suggested by these facts that the disease was in a very early stage and that vaso-motor derangement, probably paralytic, played a great part in its production. The diseases called "progressive muscular atrophy of childhood" and "infantile paralysis" were compared with the pseudo-hypertrophic paralysis. It was noted that, whereas in the former of these a definite wasting of certain parts of the cord had been demonstrated by Dr. Lockhart Clarke and Dr. Bastian, no morbid appearances

* Read at a Meeting of the Royal Medical and Chirurgical Society, October 28th.

had been detected in the brain or spinal cord characteristic of the pseudo-hypertrophic paralysis. It was inferred from these and other considerations that the origin of the disease must be looked for in the sympathetic or ganglionic nervous system. No affection of sensation was detected in this case; and the one morbid condition was the gradual weakening of the muscular power in the lower half of the body generally, associated with the hypertrophy of the calves. This was regarded, not as a true hypertrophy of muscle due to excessive use, but as an overgrowth of interstitial connective tissue due to hyperæmia.

ART. 39.—*On the Treatment of Rheumatic Facial Paralysis by Electricity.**

By M. CONSTANTIN PAUL.

(*Gazette Hebdomadaire*, No. 32, 1873.)

The author declares against the tendency of specialists to resort to one of two camps in their opinions concerning the treatment of this malady. Some employ but faradization, others but galvanism. Each of these two methods has its special indications, which vary with the periods and the forms of the malady.

In the first stage of facial paralysis, faradization, as well as galvanism, provokes muscular contraction at the periods of opening and closing the circuit. Nevertheless, faradization seems to be the best method to employ at this period.

In the second period, that is to say, at the end of eight or ten days, faradization no longer excites contractions; galvanism, on the other hand, retains its power, and is even more energetic on the paralysed than on the other side. The passage of the continuous current causes no contractions. In this stage M. Paul employs galvanism.

One may now have recourse to continuous or interrupted currents.

Remak advises, in cases where one wishes to employ continuous currents, numerous elements united by their opposite poles, and with a feeble chemical power. M. Paul prefers large elements, like those of Daniel, for example; but, thinking that it is necessary to render electricity an agent that can be as readily used by all practitioners as steel or quinine, he employs Calot's pile, which can be readily employed, and the price of which is moderate.

The capital point in the employment of these apparatuses is the application of the poles, especially the negative one.

The negative pole causes more pain than the positive; it produces redness of the skin, and sometimes urticaria and even vesication. These accidents may be readily avoided by taking care not to apply the metal directly to the skin. The important point is, that the negative pole increases the muscular irritability, which is diminished at the positive pole. It is necessary, then, to apply the negative pole over the muscle to be galvanized, at the level of the motor nerve; the positive pole

* Communicated to the Société de Thérapeutique, Paris.

should be placed as far as possible from the negative over the course of the nerve.

The number of elements to be employed should vary with the sensibility of the patient; generally, one ought to employ more elements at the commencement of the sitting than towards the end.

It is probably a good plan to change the course of the current. It is well known that telegraph-wires become weak if despatches are passed but in one direction. M. Paul believes that uniformity in the direction of the current has a like action on nerves.

The constant current may be passed for from two to five minutes, it should then be interrupted and the points changed. The whole sitting may last for ten or fifteen minutes.

By this treatment may be restored, first, the muscular tonicity, then the voluntary movements, finally, the faradic power.

Such is the method of employing continuous galvanism. If interrupted galvanism be applied, it is rather for its tonic than for its exciting action. Its use ought not to be prolonged.

When, at the end of the second period, the faradic power has returned, M. Paul proposes that galvanism and faradization should be employed simultaneously. The two poles of a faradic current are placed between the two poles of a constant galvanic current applied in the manner described above. Faradization thus acts during the electrotonic state produced by galvanization. This continued mode has been employed in Germany.

The third period of facial paralysis is characterized by total loss of muscular tonicity, retraction of the healthy side, absolute loss of voluntary contractility, and atrophy of the muscles. At this period neither galvanic nor faradic currents exert any action.

In the treatment of this period, M. Paul has been encouraged by several data of experimental physiology: considering that the muscles of the face retain their activity after section of the facial; that after section of the nerves the muscular bundles are still contractile under the influence of galvanism; and finally, that nerves may be regenerated after crushing; M. Paul has sought to obtain from galvanism at this advanced period of facial paralysis a certain degree of tonicity and momentary contraction which might diminish the duration and facilitate the articulation of words. In an advanced case, the continuous currents of Remak were employed with success; the effects of such currents being, as is well-known, to induce hyperæmia of muscles.

ART. 40.—*The Pia Mater as a Coat of the Cerebral Vessels.**

By J. BATTY TUKE, M.D.

(*British Medical Journal*, Oct. 11.)

Dr. Tuke illustrated his paper by a series of microscopic preparations, in which he expressed his opinion that the so-called hyaline membrane

* Read at the Forty-first Annual Meeting of the British Medical Association.

on the arteries of the brain is really the normal sheath of the vessel thickened by disease. He alluded to the statement of Rindfleisch that the cerebral arteries do not enter naked, and showed specimens in which he believed he could trace a thickened pia mater gradually fining off into a purely hyaline membrane as it penetrated the deeper portion of the brain. He also exhibited specimens in which a distinct membrane could be traced apart from the vessels, lying in vascular tracts from which the other coats had been removed. With regard to the hyaline membrane of the vessels of the pia mater, he coincided with the opinions of Gull and Sutton as to its existence, but not with their theory of its formation, as he had found it constantly in cases in which no disease of the heart or kidneys existed. He believed it to be due to a thickening and opacity of the pia mater immediately investing the vessels, caused by hyperæmia; that it was brought more prominently into view by the employment of reagents, but that it could be seen without their use; that where it could be demonstrated in the pia mater, it could be traced by careful dissection passing inwards as a sheath; and that it could be more easily found in cases of disease than in healthy subjects. The general tenor of the paper was to indicate the existence of an anatomical sheath of the cerebral arteries, formed by an extension inwards of the tomentum cerebri, supporting the views of Lockhart Clarke and Robin.

ART. 41.—*On the Diagnosis between General Paresis and Progressive Locomotor Ataxy.*

By W. H. O. SANKEY, M.D. Lond., F.R.C.P., Lecturer on Mental Diseases at University College.

(*British Medical Journal*, September 20.)

The differences may be arranged in a tabulated form, as follows:—

<i>Paresis</i>	<i>Ataxy</i>
Runs its course in a few years.	Is much slower usually, and may last ten or even twenty years.
Commences with mental symptoms.	Commences with pain in a distal nerve.
Is attended with libidinous ideas.	Is attended with absence of sexual feeling.
The motor symptoms are secondary in the order of time.	The motor symptoms are the primary phenomena.
Is only rarely complicated with pelvic difficulties.	Pelvic symptoms are a prominent feature.
There often is great violence.	The mental phenomena are imbecility and impaired memory.

ART. 42.—*Morphia in some Cases of Insanity.**

By W. J. MICKLE, M.D.

(British Medical Journal, Oct. 11.)

The object of this paper was to exemplify the influence exerted by tonic and stimulating doses of morphia on certain subjects of melancholia. Moderate but continuous stimulation was aimed at, and therefore small or medium doses were given, and their action was sustained for prolonged periods. Though there was nothing new in the plan of administration followed in these cases, yet it was highly different from the method frequently adopted, of making gradual increments to the doses, until large quantities of opium or morphia were taken daily, at the risk of deteriorating the mental and physical powers, and of inducing an unnatural craving for the drug to relieve the depression flowing from the abuse of so powerful a neurotic. Insanity had usually become firmly established for some time in the cases dealt with in the paper, and the patients were unpromising subjects for treatment. They suffered from chronic melancholia, either of a quiet character, the patients being sorrowful, cast down, and displaying the usual aberration of thought and will; or, secondly, they also exhibited some excitement, moroseness, and disposition to occasional impulsiveness or violence. For sake of comparison, ten of each class were selected, as nearly as possible of similar ages and conditions of life, and all of the male sex. The bodily and mental health of the quiet melancholics, and the bodily health of the more irritable patients, were benefited, in the aggregate, in nearly equal degrees; but the mental state of the latter was, on the whole, ameliorated to a far less extent. The changes noticed in the various mental symptoms of the whole number during treatment were discussed under several heads. Moroseness, irritability, and impulsiveness, when they existed, were, though improved in some cases, frequently less benefited than the other phases of aberration, and, indeed, were occasionally aggravated by morphia. An explanation of this was suggested by attention to the variations in the physiological effects of the alkaloid in different individuals. The action of the particular treatment on nutrition and on the digestive organs was given in outline, and cases were mentioned illustrative of the relief obtained by previously inducing the action of bromide of potassium, in persons in whom gastric derangement, faintness, &c., were apt to follow the administration of opiates. In the last place were mentioned the general conclusions derived from an investigation into the influence exercised by morphia, in certain doses, on the morning and evening pulse and temperature of a number of the patients. The writer admitted that no very striking curative operation could be attributed to the course of morphia prescribed in the twenty cases on which the paper was based; but the physical health was much improved in the aggregate, while the mitigation of distress, and of other phenomena of mental aberration, was not

* Read at the Forty-first Annual Meeting of the British Medical Association.

inconsiderable. Females were referred to whose recovery seemed wholly to depend on morphia given in the same way; improvement ceasing again and again when the latter was experimentally omitted, but returning under the revivifying influence of the alkaloid, when its use was resumed.

ART. 43.—*Is there such a Disease as Acute Primary Mania?**

By W. H. O. SANKEY, M.D.

(*British Medical Journal*, Oct. 11.)

Dr. Sankey criticised the plan generally adopted by writers on insanity, of making some prominent feature arising in the course of a case the chief feature in its description, without regard to what has gone before or what may follow. Examples of this were found in the use of the terms emotional, identical, impulsive, and intellectual insanity; puerperal mania, phthisical mania, &c. He regarded this as an unnecessary departure from the ordinary rules of pathology. Regarding acute mania as a primary disease, he said that in his experience of twenty years he had not been able to find anything agreeing entirely with the descriptions of it. The cases which had come under his notice as alleged instances of acute primary mania were: 1. Cases of general paresis in what the French call the expansive stage; 2. Secondary attacks of recurrent insanity. He concluded by saying that, if it be the fact that no case of insanity commences as mania, the name should be expunged from the list of diseases, and used only as a term for a symptom or series of symptoms; and, if it be true that no primary case commences with violence, the knowledge of the fact becomes highly important in a medico-legal point of view.

ART. 44.—*The Delusions of the Insane; their Real Value as a Means of Diagnosis.**

By J. G. DAVEY, M.D.

(*British Medical Journal*, Oct. 11.)

This paper was written to prove that insanity may, and oftentimes does, exist both with and without delusions; that, even in the worse, as in the mildest forms of the disease, the presence or the absence of delusions can matter but little as a means of diagnosis; that delusions in the insane are simply the effects of a pre-existing and abnormal state of the ever active affections. Cases of madness, the author affirmed, are seen of long standing, and, in every sense, confirmed and irremediable; yet, during their whole course, from beginning to end, nothing like delusions appear. It was shown that these views have an important bearing in a medico-legal sense.

* Read at the Forty-first Annual Meeting of the British Medical Association.

ART. 45.—*Some of the Causes of Idiocy and Imbecility.**

By J. LANGDON DOWN, M.D.

(British Medical Journal, October 11.)

Following up his inquiries into the history of two thousand cases of idiocy which had come under his observation, Dr. Down found that 24 per cent. were first-born children. He regarded two causes as potential in these cases: (1) pressure on the cranium; (2) suspended animation from retarded labour. He also attributed something to the more exalted emotional life of women during their first pregnancies. Among primiparous idiots, one-fourth had been born with suspended animation. While the ratio of sex among idiot primiparæ was 3 males to 1 female, the ratio of those born with suspended animation was 5 males to 1 female; indicating the influence of the increased size of the male cranium over that of the female. He pointed out that there is less danger to the mental future of the child in the timely use of forceps than in allowing a lingering labour. Three per cent. of the idiots had been delivered by forceps, and 2 out of the 3 per cent. were born with suspended animation, probably from the use of the forceps having been too long delayed. Disparity in the ages of the father and mother did not appear to be very productive of idiocy. In 7 per cent. only was there a disparity exceeding ten years. In all the cases, the father was the senior. Four per cent. of the issue were males, and 3 per cent. were females. Five per cent. of idiots had fathers who were above 50 at the time of their birth, and the male progeny were the most influenced, 4 per cent. being male and 1 per cent. female. A much more potent cause was found to be the neurotic condition of the progenitors. In 45 per cent. there were well-marked neuroses, in one or both families. If the neurosis were marked on the maternal side, the first children were the most affected. If the neurosis, on the other hand, were paternal, he found that it was the later born children that were affected. He related several cases that had lately come under his notice, where the father had died from locomotor ataxy and general paresis. In these cases, the early members of the family were mentally vigorous, while the last born were idiotic. The result was shown to be more perilous to the offspring of those where the neurotic tendency was on both sides of the progenitors, and it was this circumstance which caused the danger in marriages of consanguinity.

ART. 46.—*Cerebro-cardiac Neuropathy.**

By M. KRISHABER, M.D., Paris.

(British Medical Journal, August 30.)

This communication was taken from a work which the author is about to publish on an undescribed nervous malady. The description was

* Read at the Forty-first Annual Meeting of the British Medical Association.

founded on an analysis of thirty-eight cases. The constant symptoms were described to be:—1, disturbances of sensation, characterized by false perceptions and general and very intense hyperæsthesia; 2, disturbances of locomotion, manifested in the abolition of equilibrium from vertigo, paralysis, or paresis; 3, disturbances of the circulation, consisting in extreme irritability of the vascular system, palpitation, dyspnoea, syncope, and sometimes angina pectoris; 4, secondary disturbances, varying in individual cases.

ART. 47.—*Paralysis of Motion and Sensation in the Hand and Forearm from Local Contact with Red Iodide of Mercury.*

By A. W. FOOT, M.D., Physician to the Meath Hospital.

(*Dublin Journal of Medical Science*, Sept.)

Dr. Foot relates a very characteristic case of the local effects of mercury, under the care of Dr. George B. Cooksey. A herd, aged twenty-three, of sound constitution, was admitted into the medical wards, 10th April, 1871, with loss of motion and sensation in the right hand and forearm. On the 13th March, a little more than three weeks before admission, he had rubbed a quantity of red mercurial ointment, as cattle blister, into three head of cattle who were affected with pleuro-pneumonia. He had been in the habit of rubbing this ointment into cattle all through the winter, but on this particular occasion he neglected the precautions adopted on former occasions. He had been accustomed to cover his hand with a bladder, and afterwards wash the hand with soap and warm water; on this occasion the bladder became frayed away, and the lather of sweat and mercurial ointment came in direct contact with his hand; he did not think it worth his while to get a fresh bladder; he also on this occasion only rinsed his hand in cold water. Next morning, on waking, he found his right hand "numb-like," "as if it was asleep;" as he went to his work across the hills he dipped it into a brook "to waken it," and slapped it against his other hand, but it remained numb and powerless. He had two blisters applied, one above, the other below the elbow, and then sought admission into hospital three weeks after the occurrence. The condition of the right hand was one of weakness rather than of complete paralysis, for although he could not "grip" with it, the dynamometer showed a power of $13\frac{1}{3}$ kilos. in the right hand, against 30 kilos. in the left hand. He could not flex, extend, abduct, or adduct the hand; he had a stinging sensation in the fingers; the deltoid was not affected, nor the muscles of the upper arm; there was no atrophy. He was ordered iodide of potassium in 5-grain doses twice a day, and subcutaneous injections of the liquor strychniæ, B. P., to be made in the right forearm; the $\frac{1}{45}$ th of a grain was the amount of strychnia at first used, subsequently the $\frac{1}{32}$ nd, every second day. On one day only was any tremor observed in the affected parts. 15th April, right hand = 14 kilos., left hand = 34 kilos. 22nd April, as he felt a pain in the right forearm from the elbow to the wrist, along the course of the median nerve, the injections of strychnia were discontinued, and the

primary induction current of Stöhrer's battery was from this date employed daily. He quickly improved under the use of this battery, and before long had perfectly recovered the full power and use of his hand and forearm.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 48.—*Treatment of Spasmodic Asthma by Chloral.*

By C. T. WILLIAMS, M.D., F.R.C.P.

(*The Lancet*, Oct. 25.)

At a meeting of the Clinical Society of London, October 10th, Dr. Williams brought forward three cases of spasmodic asthma treated by chloral. The first was that of a married woman, aged twenty-three, from the Isle of Man. Various remedies had been tried in vain. On her arrival in town, Dr. Williams did not at first pursue active treatment, hoping that the change of climate might give relief. The fit, however, coming on as usual, chloral was given in twenty grain doses. After the first dose she fell asleep for an hour; after the second she slept a whole night; and a few more rendered her breathing quite clear. The drug was then omitted, and the patient remained free from asthma for more than a week. The second case was that of a lad, aged sixteen, who had been subject for six years to attacks occurring once a week and lasting three days. Chloral was given during a severe paroxysm, with the result of causing sleep and immediate relief to the breathing. He remained in the Brompton Hospital free from attacks, in spite of several threatenings of dyspnoea, which were always averted by the timely administration of chloral. The third patient was an unmarried woman, aged twenty-seven, with a history of asthma of two years' standing; the attacks occurring every morning, lasting two or three hours, and often recurring in the forenoon. During a very severe one, which occurred in the Brompton Hospital, a variety of drugs were tried with little effect. Chloroform inhalation gave some relief, but caused cardiac intermission. Hypodermic injection of morphia did good, but her increasing lividity precluded its continuance. Chloral was then given in twenty-grain doses, and the first dose induced slumber and easy respiration. The drug was continued in smaller doses for upwards of two months, during which time the attacks seldom recurred, and, when they did so, were extremely mild. Once the chloral was omitted, and the asthma immediately returned, but ceased on resuming it. All the cases were complicated by catarrhal symptoms, and in the third case there was considerable emphysema, which diminished during the patient's stay in the hospital, Biermer, of Zurich, had already used chloral extensively in these cases. Dr. Theodore Williams's own experience, founded on upwards of twenty cases, was decidedly favourable to the use of the hydrate of chloral in spasmodic asthma. In only two cases had any untoward symptoms arisen.

Dr. Reginald Southey remarked that most cases of asthma showed a nervous or hysterical temperament, and that if the disease depends

distinctly on a neurosis, the drug acted as a stimulant, and so did good. In one case that had come under his notice, nitrite of amyl was decidedly beneficial, though the effect was only temporary.

Dr. A. P. Stewart, in complimenting Dr. Williams on his paper, observed that chloral hydrate was a very uncertain remedy, that it sometimes caused great and alarming depression of the circulation, and usually extreme irritation, with affection of the eyes, &c. He (Dr. Stewart) believed rather in the efficacy of large doses of bromide of potassium, which, in his opinion, was a less perilous remedy than chloral hydrate.

Mr. Nunn asked Dr. Williams if any of his cases were due to special diet, and remarked that various articles of food, as rice, will in some persons cause symptoms akin to suffocation.

Dr. Williams, in replying, did not agree with Dr. Southey as to the stimulant properties of chloral, demurred to the dangers attending its administration indicated by Dr. Stewart, and thought it a safe remedy, inasmuch as very few fatal cases resulting from its use are recorded, although it is now well known as a domestic medicine. He believed that the cases recorded in his paper were due, not to dietetic, but to climatic causes.

ART. 49.—*Remarks on Nitrate of Potash in Acute Pneumonia.*

By H. MACNAUGHTON JONES, M.D., M.Ch., F.R.C.S.I.,
L.R.C.S.E. ; Extraordinary Physician, Cork Fever Hospital.

(*Dublin Journal of Medical Science*, July.)

The treatment of acute pneumonia being so often and so hotly made the subject of dispute, Dr. Jones brings the notes of some few cases under the notice of the profession, selected out of a large number which, from time to time, it has fallen to his lot to treat. Of late he has treated nearly every case which he has seen *in the earlier stages* of the disease with nitrate of potash, in ten and fifteen grain doses, repeated every third hour, until it produced its peculiar effect on the temperature and pulse. He combines at times with it gr. j of hippo and gr. j of antimonial powder.

Dr. Jones states that he has had cases in which he has given up the nitrate of potash and resorted to quinine or digitalis, from complications which prevented its continuance, and some in which, the pneumonia being a secondary affection, it was of course excluded. Regarding the accompaniments of this treatment, diet and local measures to the lung, Dr. Jones leans entirely to a free and generous support, and rather to the side of the stimulant system than the contrary. Many object to the employment of counter-irritants and vesicants in pneumonia. The author says that his practical experience enforces on him the great value of these measures, and, in the history of the cases recorded, this course was adopted in all with the best results. He finds nothing so soothing as the linseed warm cataplasms kept constantly over the inflamed lung, more especially after vesication. These are his sole applications (*linseed*

poultices) in the very early stage of the disease, but he believes nothing hastens resolution like a free vesicant, the surface then dressed, and all being covered with a linseed poultice, kept constantly warm.

ART. 50.—“*Rest*” in the Treatment of Consumption of the Lungs.

By I. B. BERKART, M.D., M.R.C.P.L., Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, and Physician to the Training Hospital, Tottenham.

(*The Lancet*, Oct. 18.)

The failure in the treatment of phthisis is, Dr. Berkart thinks, mainly due to the existing uncertainty of its pathological conditions. The object he has now in view is to call attention to the beneficial influence which diseased lungs must experience from rest, a therapeutic agent the value of which has long since been recognised in all departments of medicine. He refrains from discussing the pathology of phthisis, and from pronouncing in favour of the one or the other of the current doctrines, in order not to give rise to an erroneous impression that rest is only applicable in the treatment of phthisis of a certain kind. At all events, if diseased lungs benefit by being excluded from the respiratory movements for some time, it is indifferent whether a catarrhal or a parenchymatous pneumonia has been the starting-point of the disease.

As the basis for the consideration of treatment, he assumes “a pneumonia” which may completely subside without leaving any traces of its former existence, but which in the majority of instances leads to destruction of the pulmonary tissue. He thus leaves it undecided whether the cheesy masses and the tubercles are to be considered the causes or the results of the pneumonia. Frequently, however, after such a pneumonia masses of cirrhotic tissue are found in the lungs, associated or not with cheesy transformation of some portions of the lungs, and this cirrhotic tissue appears to be the product of a natural tendency towards repair.

At present there are no means of preventing this pneumonia, although there is reasonable hope that the careful avoidance of all those circumstances which are now considered to be exciting causes of phthisis may be followed, in the course of time, by a numerical decrease of the disease. We are consequently brought face to face with the disease itself; and we must aim either at a complete subsidence of the pneumonia, or at least at the formation of a permanent connective tissue—the above-mentioned cirrhotic masses. And although this last termination of the pneumonia is by no means indifferent to the subsequent functional activity of the lungs, it is, under the circumstances, the most favourable *quoad vitam*.

Daily observation furnishes direct proofs that rest exercises a most beneficial influence in the affections of the lungs. Thus, in the case of fracture of the ribs and laceration of the lungs, accompanied by hæmoptysis, hæmothorax, &c., surgeons can state with great satisfaction that “it is surprising what an extent of injury may take place in this way, and

yet no serious consequences ensue;”* and indeed such satisfaction must be the greater since they may ascribe to their treatment the favourable results obtained.

Another point which may be adduced in favour of rest is the fact that the vast majority of out-patients, before applying at the hospital, have worn plaster over the painful part of the chest. Dr. Berkart has, as a rule, found the patients more or less eloquent on the relief which they thus obtained. He has taken some pains to examine the ingredients of these plasters, and has found them to be composed of inert substances. Now, that beneficial effect can only be attributed to the relative immobility and the consequent rest of the painful part, and indeed a piece of adhesive plaster invariably produces the same effect.

He is also inclined to think that the value of compressed air in the treatment of phthisis principally consists in the rest which the lungs derive from it. Although rest to the lungs produced by means of bandages and strapping cannot aspire to the same results as the compressed air-bath, it can nevertheless confine the work to be performed to the comparatively healthy parts, and exclude from it the inflamed portions, which are, after all, useless for the respiratory function.

It is left to the ingenuity of the practitioner to produce the immobility of the lungs by strapping and bandages. Dr. Berkart has only made use of strips of adhesive plaster, and they have invariably answered his purpose.

He states that he has never seen any inconvenience to arise from it. On the contrary, patients who complain of pain in the chest immediately feel relief after being bandaged, and they declare that they can now breathe more easily. The frequency of respiration diminishes, so do the intensity of the cough and the quantity of the expectoration. With regard to physical signs, Dr. Berkart is confident that these also give evidence of improvement.

He does not consider rest as a “specific” in the treatment of phthisis, but only as a valuable adjuvant; and if we do not expect from it more than it can reasonably do, we shall, he thinks, not be disappointed in employing it.

ART. 51.—*On Iodide of Mercury in Pulmonary Phthisis.*

By Dr. BRACHATTI, of Larnaca.

(*Gazetta Medica delle Provincie Venete*; and *The Lancet*, Oct. 25.)

Dr. Brachatti of Larnaca prescribes the above salt, combined with oxymel of squills, in the various stages of phthisis. The usual dose is one-sixth of a grain for an adult; for children he uses it in the shape of pills; one-fourth of a grain is divided into eight pills, and one or several pills are administered according to age.

* Erichsen, *Science and Art of Surgery*, vol. i. p. 267.

ART. 52.—*Pulmonary Hæmorrhage as a Cause of Consumption.*

By J. MAGEE FINNY, M.D.

(*British Medical Journal*, July 5.)

At a meeting of the Medical Society of the College of Physicians of Ireland, April 9th, Dr. J. Magee Finny introduced this subject by reading an account of three illustrative cases:—

CASE 1.—Miss F., aged eighteen, a member of a delicate family, but hitherto in good health, coughed up some blood on July 9th, 1869. Hæmorrhage recurred on the 11th and 12th, and for nine days black sputa continued to be expectorated. On the tenth day, the temperature rose to 103° , near which point it continued till shortly before death. At the time the bleeding occurred, physical examination discovered a slight moist râle over the lower portion of the left lung posteriorly, without any sign of consolidation. After six days, dulness was noticed in the situation with tubular breathing and bronchophony. The lung disease now made rapid progress, softening occurred, cavities formed, and in eight weeks the patient was dead.

CASE 2.—Miss M., aged twenty-two, unmarried, two days before her monthly period, had moderate hæmoptysis. Black sputa continued to come up for ten days. After five days, symptoms of an attack of pneumonia, including a crop of herpes labialis, supervened, and there were the physical signs of consolidation of the base of the left lung. On the seventeenth day, resolution seemed to set in, but in five days fresh symptoms appeared, the temperature rising to 101.5 and 103.4° . The patient now sank slowly but surely under the influence of an increasing pulmonary affection, and died forty-four days from the first hæmorrhage.

CASE 3.—A medical student, aged twenty-one, had always enjoyed good health. While shooting, in the grouse season, he took a difficult leap, and came down heavily on his feet. Almost instantly he coughed up some bright blood. In a few days, pneumonic consolidation of the lower lobe of the right lung was detected. Partial resolution followed, but under depressing treatment inflammation again lighted up, and throughout the whole right lung consolidation, softening, and abscesses followed in quick succession. The patient died within five months from the initiatory hæmoptysis.

These three cases coincided in the following points:—1. In none of them did the lungs exhibit any signs of previously existing disease before the hæmoptysis occurred. 2. The patients were all young and healthy. 3. The bleeding took place unexpectedly, and suddenly. 4. After a few days pneumonia, at first lobular, then lobar, with high fever set in, and from its effects the patients seemed to die at varying intervals. As explanatory of the initiatory hæmorrhage, Dr. Finny said any one of three views might be held; first, that there existed in these otherwise healthy and to all appearances sound individuals, prior to the occurrence of the hæmoptysis, a diseased state of the walls of the arteries of the lung (Williams); second, that tubercles, deposited in the lung, and lurking there for an indefinite period, produced the bleeding (Laennec); and

third, a view—much more simple than either of the former—that under some undue exertion on the part of the patient, there occurred an accidental rupture of some blood-vessel, either bronchial or pulmonary; excluding the pulmonary aneurism of Rokitansky and of Rasmussen of Copenhagen. The last supposition appeared to the author to apply to the hæmorrhage in the cases brought forward by him, in all of which the bleeding would fall under the head of some one of the three classes of congestive hæmorrhages described by M. Trastour. The cases, indeed, went to prove the truth of Niemeyer's dictum *phthisis ab hæmoptoë*; but against the exclusive application of this theory he (Dr. Finny) would set his face. The result of a primary pulmonary hæmorrhage might vary much in different cases. Thus, if all the effused blood were expectorated from the lungs, probably no evil consequences would follow. Again, the presence of the scrofulous diathesis in an individual, the subject of pulmonary hæmorrhage, was a most important factor. The summing up of the whole matter amounted to this, that pulmonary hæmorrhage might play a most serious part in producing consumption in previously healthy lungs, or in hastening the fatal termination in lungs already diseased, by lighting up afresh dormant inflammation.

Dr. MacSwiney, in opening the discussion on Dr. Finny's paper, said that, in any case of phthisis, there were three periods when pulmonary hæmorrhage might occur. The disease might be ushered in by a profuse hæmoptysis, its course might be complicated by occasional slight attacks of hæmoptysis, or its fatal termination might be hastened by severe hæmoptysis. Many pulmonary hæmorrhages were not connected with, or followed by, phthisis. As arguments against the theory *phthisis ab hæmoptoë*, he would recall the fact that phthisis often did *not* follow hæmoptysis; that Dr. Williams explained the early hæmorrhage as depending on a fragile state of the vessels, due to a previously existing phthisical tendency; and that pulmonary secondary inflammation could not be set up by the effused blood, since it was absorbed in a few days, as shown by the early disappearance of the phthisical sign of crepitation in these cases. He would explain Dr. Finny's cases by supposing that a phthisical tendency had caused the hæmoptysis, and he would ask whether tubercles might not remain for some time latent in the lungs. He asked whether it was advisable to arrest pulmonary hæmorrhage at once. In many cases, no doubt, interference did become absolutely necessary, and then perfect quietude of mind and body was indispensable, with iced unstimulating drinks, ergot, and extensive dry-cupping over the chest.

Dr. Grimshaw considered that hæmoptysis might certainly be regarded as a cause of phthisis. He drew a marked distinction between the *exciting* and the *predisposing* causes of phthisis. While admitting Dr. MacSwiney's position, that crepitation after hæmorrhage disappeared with the absorption of the fluids of the blood, he stated that the solid constituents of the blood remained, and acted as an irritant foreign body. Local treatment by depletion in cases of hæmoptysis uncomplicated by phthisis was often useful in checking a tendency to secondary inflammation.

Dr. H. Kennedy said that, if nutrition were an inflammation, then

Niemeyer's views could be accepted by him. He alluded to cirrhosis of the lung, in which great hæmorrhages were not followed by phthisis. A similar state of affairs was to be found in pulmonary apoplexy. The effect of hæmoptysis was often most salutary in relieving symptoms, where phthisis had already set in. He believed that, in all the cases brought forward by Dr. Finny, there was evidence of previously existing mischief in the lungs.

Dr. Hayden deprecated the adoption of any exclusive doctrine, such as Laennec's, as to the tubercular nature of phthisis, or as to the modern view of the origin of phthisis from pulmonary hæmorrhage. The truth lay between the two extremes, thus—latent tubercle might be a cause of hæmoptysis; while, on the other hand, primary pulmonary hæmorrhage might lead to secondary disorganization of lung-tissue.

Dr. Gerald Yeo concurred with Dr. Finny's views. He could not agree with Dr. Kennedy that pulmonary apoplexy was not a cause of phthisis; on the contrary, he thought that small apoplexies (hæmorrhagic infarctions), in themselves not sufficient to produce immediate death, frequently caused destruction of the lung-tissue, and thus phthisis.

Dr. James Little said that two factors were necessary to produce post-hæmorrhagic phthisis—the occurrence of hæmorrhage, and the pre-existence of a phthisical tendency.

Mr. Fleming drew attention to the analogy between the crepitation heard in cases of traumatic hæmoptysis, and the emphysematous crackling observed in cases of subcutaneous or intramuscular extravasation of blood.

Dr. Finny gave a full *résumé* of his opinions on the relations between hæmoptysis and phthisis. The Society then adjourned.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 53.—*Treatment of Valvular Diseases of the Heart.*

By THOMAS B. PEACOCK, M.D., F.R.C.P., Senior Physician to St. Thomas's Hospital.

(*Medical Times and Gazette*, Sept. 27, 1873.)

The following is a brief summary of the principles which, Dr. Peacock says, should guide us in our efforts to afford relief to the various different forms of valvular disease:—

1. In aortic obstructive disease we must endeavour to regulate the action of the heart, which in the earlier stages may be excessive, and in the latter may, on the contrary, be unequal to overcome the obstruction.

2. In aortic regurgitant disease the power of the heart is always defective, and our efforts must be used to enable it to maintain the circulation and to avoid the tendency to exhaustion and to death by syncope.

3. In mitral obstructive disease the danger is also partly from failure of muscular power and partly from congestion of the parts anterior to the seat of constriction.

4. In mitral regurgitant disease there is great impediment to the

onward flow of the circulation, but the especial sources of danger lie in the engorgement of the lungs and parenchymatous viscera, and we must endeavour to invigorate the action of the heart and remove the visceral congestion.

In all the forms of disease the means employed to accomplish these indications must be partly hygienic and partly medicinal. The patient must be directed to avoid active exercise, and especially anything of the nature of athletic sports; his mind must also be occupied, but severe mental labour must be avoided. He must live on nutritious but unstimulating and easily digestible food, and must either avoid stimulating beverages altogether or take them only in a dilute form and in very limited quantity—claret, sherry, or brandy being preferred to port or malt liquors.

In the first and third forms of disease, in addition to the hygienic means, the digestive organs should be regulated by mild alteratives and bitter tonics: blue pill or grey powder with rhubarb may be taken as required, with alkalies and bitter infusions—colombo or gentian; and when the power fails and the patient is anæmic, iron, more particularly in the form of the citrate, phosphate, or carbonate, may be given. Hydrocyanic acid is also often very useful in quieting the action of the heart and relieving dyspeptic symptoms in cases of this kind.

In the second form of disease, while similar regulations, both dietetic, regiminal, and medicinal, should be enforced, the power of the heart must be upheld to guard against the special danger of syncope. Food must be taken small in quantity and at frequent intervals, and stimulants must be given, those before referred to being selected. The special remedies also for this condition are tonics—more particularly iron—given in combination with quinine, &c.

In the fourth form, and especially when there is marked congestion of the lungs or other viscera and dropsical symptoms, we must endeavour to promote elimination, more particularly by the bowels and kidneys, while upholding the muscular power of the heart. Mild alteratives and aperients—mercurials, rhubarb, the alkalies,—and diuretics—the acetate or nitrate of potash, nitric ether, &c.—may be given, and must be combined with or followed by the employment of iron and other tonics, the perchloride of iron being in these cases preferred.

In carrying out these several indications the greatest care will be needed not unduly to depress the power of the patient. There are, indeed, few classes of cases the treatment of which so severely taxes the powers of the physician.

It is well known that digitalis exerts special action on the heart, lessening the frequency of its pulsations and proportionately increasing their power, and it has been supposed to be particularly efficacious in the treatment of cardiac affections, especially those in which the action of the heart and the pulse are weak and irregular. Dr. Peacock cannot, however, but think that its use has been too generally and too indiscriminately had recourse to. For a time it unquestionably does produce the effects mentioned, but if long continued, even in small doses, it exerts a very depressing influence, and Dr. Peacock has repeatedly seen cases in which it has very greatly aggravated the symptoms. Indeed, he believes it to be much more useful as a diuretic than for its special

action on the heart. It is probably the most efficient diuretic which we possess, and is especially useful and valuable in cases of dropsy, and particularly when dropsy occurs in cases of mitral regurgitation, while it is injurious in cases in which the power of the heart is deficient, as in cases of incompetency of the aortic valves. In all cases in which it is employed, and especially if its use be long continued, even in small doses, it requires the greatest care. In some cases where there is very great congestion of the lungs and right side of the heart, as in mitral regurgitation, it has been proposed to have recourse to small general bleedings to relieve the overloaded venous system. Dr. Peacock has known a small bleeding, combined with the exhibition of stimulus, to be the means of rallying, when in most extreme danger, a patient labouring under asthenic bronchitis, and it is obvious that the treatment is equally applicable to cases of heart disease.

Generally speaking, the causes which in chronic cases of valvular disease entail the greatest suffering on the patient, and tend most to aggravate his malady and accelerate the fatal event, are increased pulmonary congestion or renal complication resulting from cold, or disorder of the digestive organs originating in various ways, or excitement of mind and over-exertion of body; and special care should be exercised to protect him against these influences. In many cases, if the patient be placed in favourable circumstances, life may be prolonged and a large amount of health and vigour be enjoyed for many years. As, however, he is little likely to submit to the requisite restraints, unless made aware of their imperative necessity, it is right that he should so far be informed of his state as to make him see the importance of the regimen advised; but it would be alike wanting, both in consideration for his feelings and in sound professional policy, abruptly to tell him that he was labouring under serious cardiac disease.

ART. 54.—*Researches on the Action and Sounds of the Heart.*

By GEORGE PATON, M.D.

(Monograph. London. 1873.)

The following is a summary of the conclusions at which Dr. Paton has arrived:—

“The reaction of the aorta and the closure of the sigmoid (aortic) valves are factors in the production of the first sound, therefore a murmur of aortic-valve inadequacy ‘affects the termination of the first sound.’

“The basic portion of the ventricle remains contracted during closure of the sigmoid valves, so as to support them.

“The second sound is caused by contraction of the auricles.

“The valve-click element of the first sound is denied.

“The ‘sharp and acute’ sound, or that which is produced by the contraction of the auricles, is the first sound of the heart, and is associated with the dull and prolonged sound which *follows* it, and not with that which *precedes* it, by belonging to the same cycle of

function—*i.e.*, the order of sounds is made to correspond to that of the circulation.

“Reduplication of the first sound is due to a resolution of it into the ventricular and aortic elements.”

ART. 55.—*On Functional Mitral Murmur.*

By CHRISTOPHER J. NIXON, F.R.C.S.I.

(*British Medical Journal*, July 26.)

At a meeting of the Medical Society of the College of Physicians, Ireland, May 14th, 1873, Mr. Christopher J. Nixon detailed several cases illustrating the existence of mitral murmur, independent of valvular lesion. In three out of five cases of functional mitral murmur, which had recently come under the author's notice, the nature of the murmur was finally determined by the negative results on post-mortem examination; and in the remaining two cases, the murmur was intermitting in character. The difficulty attending differential diagnosis was great, from the similarity in character of a functional and an organic bruit; and even the seat of functional murmur was not as yet a settled point. Thus Hope and Beau held, that it was developed at the aortic orifice; Hughes, that it arose in the pulmonary artery; Parrot and Hunt, that it arose in the right auriculo-ventricular orifice; while Gardiner, Bristowe, Hayden, Da Costa, and others, maintained that the site of functional apex murmur was in the mitral orifice. Drs. Stokes and Walshe, indeed, had placed on record cases where mitral murmur coexisted with dilatation and hypertrophy of the left ventricle. In explanation of the *cause* of functional murmur, we should either believe, with Bamberger, that the murmur was due solely to sonorous vibrations of the auriculo-ventricular valves, produced by atony, dependent on fatty degeneration of the muscoli papillares, or hold that it was due to regurgitation of blood through a functionally imperfect valve. Assuming then, with Bristowe and the majority of writers, that the murmur was the symbol of regurgitation, it was still impossible to offer any single explanation which would apply to all causes, as to the cause of the murmur. He (Mr. Nixon) would with diffidence suggest that, in most cases, functional mitral murmur was the result of an irregularity, or rather a want of correspondence in the action of the sets of fibres of the ventricle which obliterate its cavity and those which close its valve; that this altered function was entirely due to some defect in the vital power or condition of the heart itself, leading either to atony of the muscoli papillares, or to derangement in the rhythm of their movement. The points of differential diagnosis were, the changeable characters of the murmur, and its alteration by position, its varying existence and its varying intensity, a variation in the volume of the radial pulse, the almost complete absence of pulmonary distress, or of doubling or accenting of the second sound, and the position of the greatest intensity of the murmur, over the body of the left ventricle (Da Costa). The author was of opinion that inorganic mitral murmur was of much greater frequency than

was commonly taught or believed, and that the old doctrine, that murmurs are the landmarks of valvular disease, needed much qualification, especially when applied to those developed at the apex of the heart.

The Chairman (Dr. Gordon) expressed his opinion that functional mitral murmurs were usually connected with some nervous lesion. In support of this view, he instanced the case of a growing lad, who was the subject of hay-asthma, from year to year. During the attacks, and not otherwise, a loud, rasping, regurgitant murmur was always audible in the situation of the mitral valve.

Dr. Hayden said that patients suffering from a mitral murmur of any kind would, a few years ago, have been refused as ineligible lives. But he had been led to consider non-valvular mitral murmur of systolic rhythm, and he had read a paper on the subject before the British Medical Association in 1867. His view of these cases was, that the murmur was due to the yielding of a portion of the wall of the left ventricle, in consequence of which, the papillary muscles were altered in their relation to the valves. As regarded differential diagnosis, there was in the murmur itself a distinguishing quality, in addition to the signs mentioned by Mr. Nixon. It was an exceedingly soft blowing murmur, accompanying or succeeding, but not superseding, the first sound of the heart.

Dr. H. Kennedy thought several causes were combined in the production of functional cardiac murmurs, one of the principal being a certain state of the blood. The position of the patients altered the character of soft, blowing murmurs; they were either lost altogether, or rendered much weaker when the patient assumed the upright position. Murmurs in fever surely depended on alterations in the blood.

ART. 56.—*On the Influence of Digitalis on the Weak Heart of Typhus Fever.*

By JAMES GRIMSHAW, M.D.

(*British Medical Journal*, July 26.)

Dr. Grimshaw, at a meeting of the College of Physicians, Ireland, on May 16th, stated, in answer to an appeal made last January by Dr. James Little, that the effect and value of digitalis in acute asthenic disease should be put to the test by hospital physicians, had used the drug rather extensively in the treatment of severe typhus fever during the past four months. It might now be taken as an established fact, that digitalis acted as a stimulant to the circulation, restoring tone to the muscular fibres of the heart and blood-vessels. Loss of tension was the great character of the pulse in many cases of typhus, and this disease was consequently the one most adapted for experiments with digitalis. Having described at some length the differences in the sphygmographic tracings of the pulse in health and in fever, Dr. Grimshaw detailed thirteen cases of severe typhus, in which he had used digitalis in large quantities, generally without any other medicine

or stimulant. Two cases terminated fatally; but of these one was admitted to hospital already *in articulo mortis*. Apart from statistical results, which would be unreliable as drawn from such a limited number of cases, the author had come to the following conclusions—namely, that digitalis does not shorten the duration of the fever, or influence its characteristic range of temperature (a fact pointed out by M. Desnos); that it prevents or lessens delirium, and improves the tension of the pulse, which falls somewhat in frequency under the use of the drug; that a sudden fall in the pulse-rate and temperature (while digitalis is being administered), is an indication of danger, and calls for the withholding of the drug; that suitable doses are from half an ounce to an ounce and a half of the infusion every second or third hour; and that stimulants should be given in addition, if the digitalis had not produced beneficial effects on the pulse (after twenty-four hours).

ART. 57.—*A Case of Patent Ductus Arteriosus.*

By C. HILTON FAGGE, M.D.

(*Guy's Hospital Reports*, vol. xviii. 1873.)

In volume sixteen of the present series of these Reports, Dr. Fagge describes a case in which a murmur was audible different in character from any bruit he had ever before heard. Two views as to its cause suggested themselves to his mind—one that it was due to a communication between the aorta and the pulmonary artery; the other, that it was a modification of an auricular systolic murmur. Last year the patient returned to the hospital and died there. On post-mortem examination it was found, that the only lesion to which the peculiar bruit could be attributed was a patent ductus arteriosus. The peculiar features in the case were extreme slowness of the pulse, and the presence of a wavy, partly musical murmur, audible at the second left costal cartilage, extending considerably to the left of the sternum along the cartilage, not carried along the sternum downwards, following the second sound, but not everywhere continuous with it, and separated from the next first sound by a considerable interval. Very few cases are on record in which a persistent ductus arteriosus has been believed to have given rise to a murmur. In the first volume of the Transactions of the Pathological Society of London, a case is recorded by Dr. Babington, which is the only one mentioned by Walshe. Prof. Jaksch reports a case in the *Prager Vierteljahrschrift*, for 1862, in which there was a murmur similar to that heard in the case reported in this paper. On post-mortem examination the foramen ovale was patent, as well as the ductus arteriosus.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 58.—*On Acute Dilatation of the Stomach.*

By C. HILTON FAGGE, M.D.

(Guy's Hospital Reports. Third series. Vol. xviii. 8vo, pp. xviii. 502. London. 1873.)

Although chronic dilatation of the stomach, whether dependent or not upon obstruction at the pylorus or in the small intestines, is a condition which has long been recognised. Dr. Fagge thinks that up to the present time its physical diagnosis has not been carefully studied. It would be a great mistake, he says, to suppose that an enlarged stomach differs from the healthy organ simply in occupying a larger part of the abdomen. On the contrary, a constant feature of these cases is that the organ is greatly displaced downwards; the gastro-hepatic omentum, the lesser curvature, and the cardiac extremity of the stomach being all much elongated. Hence, instead of the dilated stomach forming a prominence in the epigastrium, that region is more or less deeply hollowed, whilst below the umbilicus one may observe a large rounded tympanitic swelling. But (he continues) the most distinctive feature of dilatation of the stomach in these cases, and that which enables the exact position of the organ to be most accurately determined, is afforded by the peristaltic movements of its muscular coat. These usually begin near the left costal cartilages, descend below the umbilicus, and after passing over to the right, terminate by ascending more or less towards the right hypochondrium. The movements of the small intestines, so frequently seen in cases of chronic intestinal obstruction, present very different characters; and in the transverse colon direct peristalsis would produce a wave passing from right to left, or in the reverse direction to that which has been described as belonging ordinarily to the gastric contraction. It must, however, be remembered that in both forms of disease, anti-peristaltic movements may and do occasionally take place.

Acute dilatation of the stomach, although occurring oftener than is perhaps suspected, is a very rare affection, Dr. Fagge having been able to collect only four cases. One of these he saw in consultation, another was treated by Dr. Rees in Guy's Hospital, the third is recorded in the fourth volume of the Transactions of the London Pathological Society, and the fourth is reported by Dr. Bennett in his work on the Principles and Practice of Medicine. The first is especially interesting, because the diagnosis was fully made, and the proper remedies applied during the life of the patient. He was a young man, eighteen years of age, of tall but spare frame, and although until fourteen days before he was seen by Dr. Fagge he had been in the enjoyment of his usual health, he was probably not possessed of a very robust constitution. Upon examination, the abdomen was found to be greatly but not uniformly distended. For while the whole of the lower part of the belly was full and rounded, and the left hypochondrium was equally so, the right hypochondrium was flat, or even slightly hollowed. The separation between the rounded and flattened region was indicated by an oblique line descending downwards and to the right from the upper part of the left hypochondrium.

Every time the patient breathed, this line could be seen to descend a little. The principal symptoms were constant vomiting of a greenish liquid, as much as a pint being brought up at a time, and pain in the abdomen. There was a tendency to constipation, and to suppression of the urine. The symptoms were relieved at first, but afterwards returned in full force; the vomiting, however, again ceasing before the patient was visited by Dr. Fagge, who at once came to the conclusion that, whatever the original disease might have been, his distress was then mainly caused by dilatation of the stomach, and that this organ contained a large quantity of fluid, but was paralysed from over-distension, and unable to rid itself of its burden. He therefore determined to use the stomach-pump and empty the stomach, feeding the patient for a few days by nutrient enemata, and in this way giving the organ complete rest. The tube of the stomach-pump was accordingly introduced, and as soon as it had entered the stomach a few ounces of fluid, similar to that previously vomited, were ejected through it with considerable force; and when the pump was put into action, seven pints more were removed. The effect of the operation upon the contour of the abdomen was very marked, and, together with this, there was complete relief from pain. The improvement was unfortunately only temporary, for two hours and a half later the patient died. At the autopsy the stomach was found only moderately dilated, but when it was pulled down by means of the omentum, it could be made to come considerably below the umbilicus. A little patch of lymph was discovered at one spot on the peritoneum, passing from the large bowel to the mesentery of the small intestine. During the necessary manipulations, the serous membrane gave way at this spot, and a thin fetid fluid with air exuded. This was found to come from a large cavity situated behind the ascending colon, gall-bladder, and other parts, all of which were fixed together by firm fibrous adhesions of old date. A finger passed through the pylorus went straight into this cavity, and it was at first supposed that the whole calibre of the second portion of the duodenum had sloughed away. Subsequently, it was found that the duodenum passed down on the inner side of the cavity. Besides a considerable quantity of fetid fluid, the cavity contained a large-sized slough some inches long, apparently the remains of a mass of connective tissue. Dr. Fagge apparently attaches very little consequence to this lesion, but it is impossible to conceive that it was without an important bearing upon the result of the case.

In the other three cases the enlargement of the stomach was much more considerable. In the case reported by Dr. Rees, "when the abdomen was opened the stomach was almost the only organ visible. The stomach passed from the under surface of the diaphragm downwards as far as the pubes; an oblique line traced in this direction was found to measure thirteen inches. The organ then bent sharply upwards to reach the under surface of the liver, where the pylorus lay in its natural position; a line traced obliquely upwards from the lower end of the other line at the symphysis pubis, measured eight and a half inches."

Dr. Fagge, from a careful study of the four cases reported in this paper, thinks the following conclusions justifiable: 1. Acute dilatation of the stomach may arise in young subjects, in whom that organ has previously been apparently healthy. The actual progress of enlargement

is more or less gradual; but it produces at first no symptoms, and when these occur they are hidden in their onset, and of great severity, and may destroy life in a few days. Acute dilatation of the stomach may be the only disease found in the body after death, as it may have supervened upon some other morbid change in the alimentary canal. 2. Its signs are, (*a*) a rapidly increasing distension of the abdomen, which is unsymmetrical—the left hypochondrium being full, while the right hypochondrium is comparatively flattened; (*b*) The existence of a surface-marking descending obliquely towards the umbilicus from the left hypochondrium, and corresponding to the dropped-down lesser curvature of the stomach, this line appearing to descend with each act of inspiration; (*c*) The presence of fluctuation in the lower part of the abdomen; (*d*) The occurrence of splashing when the distended part is manipulated; (*e*) The presence of a uniformly tympanitic note over a large part of the distended region when the patient lies on his back. Above the pubes, on the other hand, there may be dulness on percussion simulating that of a distended bladder. 3. Its symptoms are those of severe abdominal disease, without evidence of peritonitis or lesion of the intestines. There is very profuse vomiting, so that several quarts may be evacuated in the twenty-four hours. After a time, however, vomiting may cease entirely, the stomach being paralysed, and unable to rid itself of its contents. There is no absolute constipation, although the bowels may be more or less confined. The urine is scanty. 4. After the removal of the stomach from the body, and the escape of its contents, it may shrink back to its natural size, no matter how great its previous enlargement, and the only remaining indication that it had undergone extreme distension may be the presence of slight lacerations of its coats.

The treatment which Dr. Fagge recommends is that which he adopted in the case which has been so fully referred to in this notice.

In the case reported by Dr. Bennett, the patient a few days before his death swallowed two or three bottlefuls of effervescing lemonade, and the dilatation of the stomach was believed to have arisen from the sudden disengagement of a large quantity of gas. No cause is assigned for the occurrence of the condition in the other three cases. In two of the cases sarcinæ were discovered in the matter vomited in greater or less number. In both these instances numerous ecchymoses were found in the mucous membrane of the stomach—a fact of some interest as bearing upon the opinion lately advanced, that, instead of being vegetable organisms, sarcinæ arise from aggregations of blood disease.

ART. 59.—*Treatment of Constipation.*

By Dr. MACARIO, of Nice.

(*Medical Times and Gazette*, June 21.)

Dr. Macario, in a communication to the *Lyon Médical*, observes that in treating constipation most practitioners confine themselves to enemata, laxatives, or more or less irritating purgatives, which in point of fact rather aggravate than cure the affection. He therefore wishes to make known what he says may be truly termed a “heroic” remedy, which he has employed during twelve years with such constant success that he cannot but regard it as infallible.

Constipation, as every one knows, may be produced either by intestinal excitement with deficiency of secretion (nervous constipation), or in consequence of deficient contraction of the muscular coat of the intestine. Here it is produced by atony or intestinal indolence, which bad anti-hygienic habits have induced and keep up. The prolonged contact of the fæces with the rectum blunts the sensibility of the mucous and muscular tissues, and the synergical contraction of the upper portions of the large intestine either does not take place or does so in an insufficient degree, constipation being the result. In *nervous* constipation the following pill should be given:—Pure sulphate of iron ten centigrammes, socotrine aloes five centigrammes, atropine from one-third to one-half of a milligramme. In the *atonic* form, for atropine one centigramme of powder of nux vomica may be substituted. By the aid of these pills regular stools may be procured, even in the subjects of obstinate constipation due to ramollissement of the brain and chronic myelitis with paraplegia. Dr. Macario gives from one to three pills immediately after dinner, the object being to produce one easy, natural, non-diarrhœic evacuation. If more than this is effected, the dose is to be diminished, one or two pills sufficing in most cases. The use of these “antistypic” pills ought not to be continued indefinitely, a longer interval being allowed to elapse between their administration in proportion as the constipation diminishes, it being of importance to allow the organs to resume their spontaneous action without any auxiliary. If the constipation returns the pills can be again had recourse to.

ART. 60.—*On the Treatment of Habitual Constipation by Podophyllin.*

By Dr. LABADIE-LAGRAVE.

(*Gazette Hebdomadaire*, No. 20, 1873.)

It is hardly ten years since this medicinal agent was first introduced into France by Trousseau, who recommended it in cases of obstinate constipation, although it had been employed from time immemorial by the Indians of South America. In 1844 Dr. King, of Cincinnati, made known the advantages of this agent to the medical men of the United States, and some years later Dr. G. Wood devoted to it an important chapter in his remarkable treatise on therapeutics. After the ephemeral favour enjoyed by podophyllin in France, it fell again into oblivion, until recently, when Dr. Constantine Paul again brought forward this therapeutic agent, which, for some years, had remained almost entirely unknown. Dr. Paul stated truly that a real service is done to therapeutics by bringing to the knowledge of medical men any agent that may end in relieving patients of an affection so tenacious as constipation.

In doses of 50 centigrammes to one gramme podophyllin acts as a sure purgative; it affords very abundant bilious stools, and acts but slightly on the muscular element of the intestines. When administered in doses exceeding one gramme and a half, it acts as a drastic, causes colic, and often excites vomiting.

If the statements of the physicians who have studied the action of podophyllin are to be relied on, this agent may be considered as a veritable panacea. According to Deschamps of Avallon, it possesses marvellous therapeutic properties: "It is a bitter tonic, like rhubarb; emeto-cathartic, like the ranunculaceæ; purgative, like jalap; alterative, like mercurial preparations; narcotic and poisonous, like the papaveraceous agents. It may be substituted for calomel; it is emmenagogue and anthelmintic; it produces very satisfactory reactions in the expulsion of biliary calculi, that is to say, it is a cholagogue. It is very useful in hepatic colic, ascites, anasarca, fatty liver, icterus, chronic catarrhs, glandular affections, dysentery, hypochondria."

So bright an enumeration no doubt needs a corrective, so M. Deschamps goes on to describe the inconveniences which may be caused by podophyllin. When prescribed for a long time in doses smaller than those which determine purgation, it gives rise to a form of ptyalism, which, however, never passes into ulcerative stomatitis. It may excite also a pustular eruption of the nose and eyelids, and an artificial eczematous eruption of the fingers and toes.

According to M. Constantin Paul, the action of this purgative may be thus summed up: it causes but slight irritation of the mucous membrane, and never causes enteritis, like jalap and croton-oil. It does not induce pathogenetic dysentery, except when given in large doses, and then the attack is slight, as has been shown by the experiments of Dr. Hughes Bennett on dogs. Its action on the intestinal and hepatic glands is well-marked, as the stools are abundantly provided with mucus and bile.

This latter assertion, formulated by Dr. Paul, on the authority of Dr. Bennett, has been partly refuted by recent experiments. The members of the Medical Association relying on experimental researches made on dogs with mercury, taraxacum, and podophyllin, have denied this latter agent the cholagogue action which had been attributed to it by the majority of authors. These experiments tended to show that podophyllin does not increase the biliary secretion, and that, except when it is given in purgative doses, the solid and liquid elements of the bile are diminished.

This short review of the works which have been published on podophyllum, and on its derivatives (podophyllin and podophylline) shows how frequently those who are the first to study new therapeutical agents make doubtful statements, and thus it is explained how their publication meets with so much incredulity.

Podophyllin is the officinal name given to the root of the *Podophyllum peltatum*, called by English and Americans the May-apple or mandrake. This plant grows abundantly in septentrional America. Its root or rhizome creeps under the ground and sends off at intervals a stalk which soon divides into two pedicles, supporting a large deeply lobed leaf; at the point of bifurcation of the stalk is implanted a long peduncle carrying a fine white flower, which appears in the spring. The fruit which replaces this, ripens in the autumn and presents the form and volume of a lemon. It is very acid, and its odour resembles that of the citron; hence the name of *wild-lemon* given to it by Americans.

The root of this herbaceous plant, such as is preserved by druggists,

is in small fragments of a brown colour externally and white internally ; its sweet odour recalls that of the ipecacuanha ; it has a bitter and slightly sharp and nauseating taste. The purgative properties of the drug seem to reside exclusively in its resinous matter, which Dr. Lewis, of Philadelphia, found in the proportion of 3 or 4 to 100.

This resinous matter is composed of two distinct resins : one soluble in ether and alcohol, the other soluble only in alcohol. Both are endowed with purgative properties. According to Dr. Manlius Smith, the pure and white resin, podophylline, may be obtained by precipitating the tincture by water, in the same way that the resin of jalap is obtained.

The following is the mode of preparation recommended by M. Deschamps : the pulverized rhizome of podophyllin is submitted to lixiviation with concentrated alcohol ; then the alcoholic solution is evaporated so as to form an extract of syrupy consistence ; this extract is then mixed with three times its weight of cold water, and the resinous matter is allowed to become deposited. The resin after filtration and drying is again washed. The podophyllin thus obtained is much more active than the powder of podophyllum. Doses of from 10 to 15 centigrammes cause purgation, and a dose of 5 centigrammes will produce three or four soft stools. Dr. Bouchut recommends a smaller dose than that of 10 centigrammes, if one does not wish to produce more than a single evacuation ; 2 centigrammes associated with a like quantity of datura stramonium ought then to suffice.

Trousseau was in the habit of associating podophyllin with the extract of podophyllin according to the following formula :—

Podophyllin	2 centigrammes.
Extract of belladonna	1 centigramme.
Belladonna root	1 centigramme.

One pill, to be taken every night at bedtime.

Van der Corput, who has testified to the efficacy of podophyllin in the treatment of saturnine constipation, administers it in the following manner :—

First formula.

Podophyllin	20 centigrammes.
Medicinal soap	1 gramme.
Essence of fennel or of cinnamon	A few drops.

Make 10 pills, 2 or 4 of which to be taken daily.

Second formula.

Podophyllin	30 centigrammes.
Extract of nux vomica	50 centigrammes.
Extract of belladonna	30 centigrammes.

Make 10 pills, 2 or 3 to be taken daily.

The same physician also employs podophyllin in cases of biliary lithiasis, in doses of from 10 to 20 centigrammes in a draught, and administers on the following day a large dose of castor-oil.

The most important advantages attending the employment of podophyllin in cases of constipation are these : in the first place, it does not produce consecutive constipation, and in the second place, it may be used for a long time without losing any of its action.

If, adds Dr. Paul, instead of prescribing the medium dose of 5 or 10 centigrammes, one descends to a dose of 2 or 5 centigrammes, purgation will not be obtained, and one will provoke only expulsion of the material contained in the large intestine ; with a pill containing this small quantity of podophyllin, a natural stool without any colic will take place on the following morning.

ART. 61.—*On Intestinal Obstruction due to Internal or Intra-Abdominal Hernia.*

By Dr. A. FAUCON.

(*Archives Générales de Médecine*, Juillet, 1873.)

1. One of the varieties of internal strangulation recognises as its cause an *internal or intra-abdominal hernia*.

2. Herniæ of this kind may be divided into two groups :

(a). Herniæ properly so-called.

(b). The pseudo-herniæ.

3. The internal proper herniæ which may give rise to symptoms of strangulation are the following :

1. The mesocolic hernia.

2. The intra-iliac hernia.

3. The ante-vesical hernia.

4. The intra-pelvic hernia.

5. Hernia of the broad ligament.

6. The internal testicular vaginal hernia.

4. The internal pseudo-herniæ are due to the abnormal arrangements of peritoneum, which sometimes accompany a testicular ectopia, and sometimes, when they are probably congenital, have no appreciable cause.

5. The mode of formation of these different varieties of internal herniæ is imperfectly known, and remains to be studied.

6. From a clinical point of view, the symptoms to which they give rise, permit us to divide them into two groups :

(a) Strangulations which have no other characters beside those of ordinary intestinal obstruction.

(b) Strangulations which acquire a special physiognomy from special characters due to associated phenomena, to the composition of the sac, or to the absence of one or both testicles from the scrotum.

7. The strangulation of these kinds of herniæ is always fatal, unless surgical aid intervenes before the development of inflammation of the sac, and its propagation to the peritoneum.

8. The operative proceeding which most facilitates the exploration and freeing of the strangulated intestinal loop, and which seems to be the best fitted for preventing consecutive accidents, is *gastrotoomy* practised according to certain rules, and followed or not, according to the case, by division of the strangulating agent.

ART. 62.—*Salicin in Obstinate Diarrhœa.*

By I. B. MATTISON, M.D., Chester, N.J.

(Philadelphia Medical and Surgical Reporter, February 1.)

Dr. Mattison says that an assertion that the majority of practitioners, during an active professional life, meet with one or more cases of diarrhœa which prove utterly rebellious to ordinary treatment, will, he presumes, pass unchallenged. After an experience limited to a few years, he has the record of several such instances, and the success in his hands attending the use of salicin has been so marked and gratifying, that he is induced to place it before the profession, for the benefit of those who may not as yet have given this remedy a trial under similar circumstances. He administers in powder or pilular form, to children preferably the former, in any appropriate vehicle, in doses, under two years of age, of one half grain every four hours, and to adults after the following formula:—℞ Salicin, ʒj; fiat pill. No. 24. Sig. Two pills every four hours. Its employment is followed after a short time by a decrease in the frequency of the evacuations, a return to their normal colour and consistence, and subsequent restoration to entire health.

ART. 63.—*Chlorate of Potash and Glycerine Injections in Chronic Dysentery.*

By THEODORE MEAD, M.D.

(New York Medical Journal, Sept.)

Dr. Mead advocates the injection in chronic dysentery of half a drachm of chlorate of potash rubbed up in half an ounce of glycerine and mixed with three to four ounces of warm water. This should be thrown into the bowel thrice daily, and should be retained as long as possible. He gives two cases as illustrative of the results of this plan of treatment.

1. A young man, aged twenty-seven, was first attacked with dysentery in 1861, and had never been rid of the disease, or had a natural stool, up to June, 1868, when he came under notice. He was then having twenty to thirty stools in the twenty-four hours; was weak and anæmic; muscles atrophied; skin dry; pulse weak, and his general appearance indicated approaching dissolution. The use of opium and whisky, which had always been ordered him in large quantities during the whole of his sickness, was at once prohibited; he was given quinine, iron, strong beef-tea, and forty-grain doses of subnitrate of bismuth suspended in mucilage. The injections were at once commenced, and at first gave him intense pain and were rejected as soon as thrown up, but a decided effect was produced. In a short time the unpleasant sensations subsided, and in a few days he could hold the injections an hour. In twelve days his stools were reduced to eight or ten in the twenty-four hours, and were almost free from pus and mucus. In three months he was able to resume daily work, and has continued it ever since, with no return of his dysenteric troubles.

2. In the second case the dysentery followed an attack of bilious fever, was very obstinate, resisted all the ordinary remedies, and brought the patient to the verge of the grave. The treatment was substantially the same as in the other case, and recovery was complete in two and a half months.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 64.—*On the Formation of Uric Acid Calculi.**

By GEORGE HARLEY, M.D., F.R.S.

(*British Medical Journal*, August 30.)

There had recently been published some discordant views on the subject, which, instead of advancing our knowledge, seemed rather to carry us back to the time ere physiological chemistry had revealed the true nature of calculi, and laid a sound foundation for their rational treatment. As perfectly healthy urine never contained any deposit, the frequent appearance of a crystalline or amorphous sediment in the urine was a sign which ought never to be disregarded, as it was the earliest indication of the formation of a urinary concretion; and it was in this early stage that medicine was potent in arresting and eradicating the disease. The deposition of a calculus in any part of the urinary passages, no matter whether it were a constitutional or accidental one, was always due to some special local cause, which might be trifling or temporary. When the deposition of urinary sediment had begun, the calculus went on increasing independently of the original local condition. The proportion of patients affected with uric acid, when compared with those labouring under other kinds of stone was as 7 to 10, or 70 per cent. Calculi composed of uric acid and urates had two distinct modes of formation, the crystalline and the molecular. In the formation of both of these kinds of calculi, the crystalloid was united with a certain amount of colloid material. As regarded the colour of uric acid calculi, which was known to vary from a white or pale yellow fawn to a rich mahogany red or dark chestnut brown colour, Dr. George Harley stated that it depended entirely upon the urohæmatine present in the urine; the calculus varying in depth of colour according as the quantity of urohæmatine was small or great, just in the same way as crystals of sugar-candy owed their pink, yellow, or other tints to the pigment present in the water out of which they were crystallized. According to the author, nearly all uric acid calculi originated in the kidneys, and were washed down into the bladder with the urine. It was usually stated in books that uric acid gravel chiefly affected the well fed and corpulent; but this, the writer stated, was a great error, as it equally occurred among the poorly nourished and emaciated. He concluded the remarks by stating that constitutional calculi occurred at every period of life, from the cradle to the grave. Moreover, he believed it quite possible that,

* Read at the Forty-first Annual Meeting of the British Medical Association.

in cases where there was a strong hereditary tendency to the uric acid diathesis (which could be often traced through three or four generations), calculi might begin to form in the pelvis of the kidney while the fœtus was yet in utero.

ART. 65.—*The Preventive Treatment of Uric Acid Calculi.**

By GEORGE HARLEY, M.D., F.R.S.

(*British Medical Journal*, August 30.)

Dr. Harley limited himself to the consideration of the means of arresting the formation of uric acid calculi, and facilitating the discharge of those not already too large to be voided by the natural channel, which included all calculi not exceeding the size of field-beans. Tea, coffee, wines, and beers were to be prohibited, or, at least, prescribed in very great moderation, to patients labouring under the uric acid diathesis. He next alluded to the recent proposal of Dr. Day, of Victoria, to give ozonic ether in such cases, and passed on to the consideration of the alkaline treatment. From the very earliest times, alkalies had been resorted to with the view of retaining uric acid in solution until its expulsion from the body; and what the ancients did empirically we moderns did scientifically by improved methods, and with much greater success. The alkalies now in most general use were soda, potash, and lithia, in the form of carbonates, citrates, and acetates. Ammonia, on the other hand, was avoided in the uric acid diathesis, on account of the salt which it formed being less soluble than any of the others. The common idea was, that the action of alkalies in the uric acid diathesis was solely and purely a chemical one. There no doubt existed a chemical action, and that a most important one; but, beyond this, there was an important physiological action produced in the body, through which the oxidation process was so much increased as to transform the little soluble uric acid into the very soluble urea. To Dr. Basham was owed the establishment of this as a clinical fact. In the treatment of the uric acid diathesis, more depended on the dose than on the kind of alkali given. As a general law, it was unnecessary to render the urine more than neutral, except in cases where we were attempting the dissolution of stones already formed; but, even then, there was danger in making the urine either too alkaline, or retaining it in an alkaline state for too great a length of time. Dr. Nunneley found that from ten to eighteen drachms of citrate of potash in twenty-four hours notably diminished the excretion of urea; and Dr. Basham found that half-drachm doses given three times a day augmented it to even double or treble its previous amount. Dr. W. Roberts, of Manchester, found that, while sixty grains of carbonate of potash to a pint of water daily dissolved twenty per cent. of an uric acid calculus, the solvent power of the solution gradually diminished as the solution was made weaker or stronger. Dr. George Harley called attention to the very great im-

* Read at the Forty-first Annual Meeting of the British Medical Association.

portance of the quantity and quality of the drinking water. Patients who had suffered from gravel or stone in one district, frequently got rid of it on removing to another; and this he had been able to trace to the difference in the quality of water. Hard water, especially that from chalky districts, caused stone; soft water cured it. He consequently recommended the free use of distilled water, not only as a menstruum for the medicine, but also for cooking purposes. Moreover, as the more pure water taken, *cæteris paribus*, the more effectual was the treatment, he gave his patients, when possible, from twenty to forty ounces of filtered rain or distilled water in the twenty-four hours; and, where they objected to its unpalatability, a squeeze of lemon or a pinch of salt was added to it. Hard water must, in all cases, be avoided. The only substantial benefit derived from mineral waters was, he believed, that the medicine was there given in a very dilute form. In mineral waters the relative proportions of their ingredients were not regulated according to the age, constitution, state of health, and other special requirements of the patient. As regarded the benefit of mineral waters in the uric acid diathesis, he pointed out that, contrary to some recent published opinions, it was due chiefly to the alkaline salts they contained. The writer concluded by saying that the chief obstacle to our success with chemical therapeutics in the treatment of calculi lay in the imperfect knowledge of physiology and chemistry possessed by practical men, who almost invariably failed in their endeavours to combine science with empiricism.

ART. 66.—*Note on the Treatment of Chronic Cystitis.*

By H. S. PURDON, M.D., Physician to the General and Skin Hospitals at Belfast.

(*Dublin Journal of Medical Science*, Oct.)

The following note of a case of chronic cystitis occurring in a female, is recorded by Dr. Purdon:—

Mrs. M —, aged about forty, a healthy-looking country woman, residing in the County Down, was admitted into the Belfast General Hospital, under Dr. Purdon's care, in February last, suffering from chronic cystitis. She was the mother of several children, and attributed her disease to exposure to cold after last confinement. There was constant desire to make water, and pain over the region of the bladder. The former much worse at night; she was up nearly every hour, to urinate, and her health was beginning to suffer. Her urine was scanty, ammoniacal, contained a little mucus, and frequently, when the last few drops were being voided, some blood appeared. No tenesmus; bowels regular; appetite pretty good; no thirst. Dr. Purdon's colleague, Dr. Murney, sounded the bladder for stone; the result was negative. The usual routine treatment was tried in her case, such as *uva ursi*, *pareira brava*, *buchu*, &c. Iodoform vaginal suppositories gave temporary relief, as did also washing the bladder with tepid water and tincture of opium; after some time dilute nitric acid and water, then a mixture containing *copaiba*; and lastly, prussic acid—about eight drops to the ounce of

water—were tried. These remedies all gave slight relief, but only temporary, and soon lost their effect. About this time, April, Dr. Purdon saw a notice of a paper by Dr. Clemens, of Frankfort, on the treatment of chronic diseases of the bladder by the injection of tepid normal urine, and he determined to try this method (after taking his then house pupil, Mr. L., into confidence, and who supplied the necessary normal urine). The urine was injected into the bladder—after being first washed out—night and morning, a few minutes after being made, and whilst quite warm, with the most beneficial results—the patient being discharged, seemingly cured, in some three weeks. She was to return and report, but as she has never done so, Dr. Purdon takes it for granted that she has remained well. No one in the ward knew of the treatment, otherwise they would have rebelled against it, especially the patient. Dr. Clemens offers the following remarks on the injection of the bladder with normal urine, and which may be interesting to reproduce. His paper first appeared in the *Deutsche Klinik*, No. 7. He says that:—"About four years since, in a very bad case of disease of the bladder, in which this organ had been for months in contact only with decomposed and stinking urine, the idea occurred that advantage might accrue from introducing into the bladder urine with its normal proportion of uric acid. The experiment succeeded so well in this and some other cases that I became convinced that the urine in question formed a better material than the most esteemed injections. The bladder having been completely emptied by the catheter, from six to eight ounces of lukewarm distilled water was thrown in, and retained for about five minutes. After this had been removed, some tepid water is again slowly injected and retained for some minutes. A young and healthy individual now passes water into the syringe, which has been previously raised in warm water to a temperature of 25° R. and this is then immediately injected into the bladder, and left in for a longer or shorter time. The impression made by this normal blood-warm urine of a young and strong man—the temperature of which is generally higher than that which has issued from the diseased bladder—is sometimes in the highest degree favourable, so that in one case a single injection has been nearly curative." Whether this plan of treatment will prove successful in every case remains to be proved; however, it was useful in the one recorded. Probably chloral, or what has been called meta-chloral, might be tried instead, for, according to Dr. Dujardin-Baumetz, of Paris, chloral possesses the property of preventing decomposition of the urine; and Dr. Baumetz thinks that in certain diseases of the bladder it may be usefully injected into that viscus.

ART. 67.—*On a Rare Cause of Mistake in Testing Urine for Albumen by the Ordinary Processes.*

By C. E. BROWN-SÉQUARD, M.D.

(*Archives of Scientific and Practical Medicine*; and *Edinburgh Medical Journal*, June.)

"For well-known reasons it is important that the urine tested by heat

be, at least slightly, acid ; but, as I will show by what occurred in three cases, we might conclude that there is no albumen in naturally acid urine that does, however, contain a notable quantity of it. If we first test by heat urine containing albumen (after having ascertained that it is naturally acid), we may not find the least precipitate ; and if we add nitric acid to it after it has boiled and become somewhat cold, we may yet not find a precipitation of albumen. But if we boil a second time that now acidified urine, the solidification of albumen quickly takes place, and the precipitate soon appears. This is certainly what we see in almost all cases ; but I have found that it is not always so. In three instances, in which the microscope showed tubular casts in the urine, the albumen contained by this fluid was so modified by heat that if the urine (which was naturally acid) was boiled first, the addition of nitric acid in small or in large quantity at a low temperature, or at the degree of boiling, produced no solidification of that protein substance. Had I been contented with that mode of testing urine, I would have concluded that there was no albumen in those three specimens. But when I added either a small or a large quantity of nitric acid to the fresh (unboiled) urine, and then boiled it, the ordinary coagulation took place, and after some time of rest the ordinary precipitate appeared. It is evident, therefore, that there is sometimes in the urine a kind of albumen which loses its coagulability by boiling."

ART. 68.—*On Chronic Bright's Disease.**

By T. GRAINGER STEWART, M.D., Edinburgh.

(*British Medical Journal*, August 30.)

The author first insisted upon the fact that the term chronic Bright's disease in reality includes three different processes and their combinations ; although from the latency of symptoms and the chronic course which it usually follows, the term is specially applicable to the cirrhotic, gouty, or contracting form. He referred to one instance of waxy disease which he had watched for eleven years, and to one of inflammation which he had watched for seven years, besides others which, though not so prolonged, were unquestionably chronic. A granular condition of the kidney—*i.e.*, unevenness of surface—occurs in all the forms of Bright's disease if the cases be sufficiently prolonged. Dr. Stewart then discussed the pathology of the cirrhotic kidney, described and commented on the theories of Gull and Sutton and of Johnson, and that maintained, among others, by Dickinson and the author himself. After satisfying himself regarding the exact appearances to which Sir W. Gull and Dr. Sutton had applied the term "hyalin-fibroid" formation, he examined carefully the vessels of the pia mater in twenty-three cases, and found in a considerable number the appearance to which they referred ; he found also that a similar appearance may be artificially produced by soaking in glycerine or acidulated fluids. The thickening of the outer

* Read at the Forty-first Annual Meeting of the British Medical Association, held in London, August, 1873.

coat, however, bore no special relation to cirrhosis of the kidney, being absent in some cases, and present in others in which the kidneys were healthy. Thickening of the middle coat was present in a large proportion of his cases of chronic Bright's disease, whether cirrhotic or inflammatory. The appearances described by Dr. George Johnson admirably corresponded to what he regarded as the third stage of the inflammatory form; but in true cirrhosis he had never failed to find increase of connective tissue. He therefore believed in the correctness of the views advocated by Dr. Dickinson and other writers. In speaking of the clinical history, he founded his observations upon two tabulated statements: one, giving the complications which existed in each of 36 cases examined after death; the other, showing the leading clinical features of a series of 20 cases which he had examined closely during life. From these tables he showed that the disease—*i.e.*, true cirrhosis—is essentially chronic; that it specially affects the male sex; that it is most common between the ages of forty and sixty, but occurs not unfrequently between twenty and thirty, or even at an earlier age; that it is specially connected with intemperance, while the other forms of Bright's disease are not; that it is also associated with lead-poisoning and with gout; that its origin is insidious, marked by no definite symptoms, and its course very chronic; that it is unattended by dropsy, unless in advanced stages or when inflammation is superadded; that the quantity of urine is at first natural or small, although frequently greatly increased in the advanced stages; that the specific gravity is generally low, and the quantity of urea diminished, while a few hyaline and granular tube-casts may usually be found on careful examination; that as the disease advances, the heart becomes hypertrophied, the arteries thickened, their muscular coats increased; that hæmorrhages are common, especially from the kidneys, the nose, and the uterus; that there is a marked tendency to gastric derangement and sometimes to diarrhœa; that bronchitis, congestion, œdema of the lungs, are frequent results, and often prove fatal; that among the nervous symptoms neuro-retinitis, convulsions, severe headache, and coma, are frequent results, delirium and acute mania more rare; that the disease often exists for years unsuspected, and is only discovered when important complications, especially those of the nervous system, occur.

Dr. Sutton remarked that Dr. Grainger Stewart said that he had found the outer coats of the arterioles thickened by fibroid material, but he had failed to find this change in the vessels of the pia mater in some cases where the kidneys were granular and contracted; and he had found the vessels in this manner diseased where the kidneys were not contracted and granular. Dr. Sutton had also observed that the arterioles of the pia mater were not thickened in some cases, where the kidneys were granular, but the capillaries seemed altered and thickened by homogeneous or fibroid material; and in some of these cases where the vessels of the pia mater were seemingly healthy, he found hyalin-fibroid changes in the arterioles of the skin and other parts. In some cases, the only part of the body microscopically examined was a small piece of the pia mater. It was therefore possible that the vascular disease existed in other parts and escaped notice. In by far the majority of the cases in which hyalin-fibroid vascular changes were found, the

kidneys were granular and more or less contracted. In some, the kidneys were healthy, but the heart was hypertrophied, as in Bright's disease; and in two cases, this vascular disease was found in connexion with atrophy of the brain, whilst the kidneys were healthy and the heart but little or not at all hypertrophied. These facts led to the conclusion that the fibroid changes might be local or general; and taking into consideration the clinical, etiological, and histological facts of the disease, it seemed that this morbid state, for which the term "arterio-capillary fibrosis" was suggested, might begin in the kidneys, the pia mater, brain, lungs, or other parts. It was apparently a common morbid condition after the age of fifty; and persons in whom the vessels were undergoing these fibroid changes, might die not only of kidney-disease, but of other local affections. Dr. Sutton further said that there were other questions in Dr. Grainger Stewart's paper to which he would have an opportunity of referring in a communication which Sir William Gull and he proposed soon to place before the profession.

Dr. Dickinson generally assented to the views expressed in the paper, but wished to remark upon one or two points. He understood Dr. Grainger Stewart to express the opinion that the kidney sometimes acquired a granular surface from disease limited to the tubes. He had seen many instances in which the kidney had wasted in consequence of disease thus limited, but believed that granulation of surface, restricting this term to the production of alternate elevations and depressions, did not occur except as the result of intertubular fibroid thickening, with subsequent contraction of the interstitial growth. This fibroid thickening was common in the ordinary form of granular degeneration, and was found also in lardaceous change. He believed that nodulation of surface, in which sense he used the term granulation, was always dependent on excess of fibroid growth. This, no doubt, sometimes took place in kidneys primarily affected by disturbance limited to the tubes—the change in these cases had extended from the tubes to the interstitial tissues. As a general law, granulation—limiting the term to superficial nodulation—implied fibrosis, though this fibrosis might spring from different causes. When the kidney had shrunk from simple destruction of the tubes, the surface, though not always perfectly even, was never affected as described. The greatest interest at present attached to the relation of the thickening of the arteries to renal disease. He had no doubt that these vessels were, under renal disease, thickened throughout their whole structure, in their fibrous coats as well as in their muscular. He had satisfied himself that the fibroid thickening described by Sir W. Gull and Dr. Sutton was a pathological fact, and not the result of reagents. He considered the change in the arteries to be of a complex kind—hypertrophy associated with alteration and degeneration of structure. The question next arose as to the relation of this arterial change with renal disease. Dr. Bright considered the hypertrophy of the heart found with granular degeneration of the kidney to be due to a change in the blood, which caused it to pass with increased resistance through the capillaries. Dr. George Johnson attributed the thickening of the vessels to efforts which they made to keep the blood out of the tissues, while the heart became hypertrophied by its endeavours to force it in. Thus the heart and the arteries were hypertrophied by mutual conflict,

as if animated by antagonistic volition—a view which presented nature in an inharmonious attitude. Between the heart and the arteries we could not tell which to encourage or to which to wish success. At the same time, though he did not accept Dr. Johnson's explanation, he gave him full credit for his observation of the arterial thickening. With regard to the view of Sir W. Gull and Dr. Sutton, according to which the heart and the kidneys were affected simultaneously, but independently, as the result of general fibrosis, further observations were needed. Some objections could be urged to this view, especially the general absence of fibrotic change, save in the kidney and the arteries. The liver was rarely cirrhotic in the cases in question. Then, again, the arterial affection was occasionally found where there was reason to suppose that the kidney had suffered in consequence of a purely local change, such as obstruction caused by a stone. He was disposed to look upon the arterial change as consequent upon the renal, rather than as connected with it only as having a common origin. He thought the renal condition was primary, the arterial secondary, the hypertrophy of the heart tertiary. A less degree of the arterial alteration was sometimes found with kidneys affected otherwise than with granular degeneration. When granular degeneration existed, the arterial change was, as far as he had seen, always present. Two cases of this disease, fatal under the age of fourteen, had come under his notice; in both the arterial change was marked. In such cases it was not easy to recognise any influence allied to senility. Any conclusion on the subject, however, he regarded as only provisional, not that the subject involved any special difficulty, but because problems were involved which required time for their solution.

Dr. W. Roberts (Manchester) said he was hardly prepared to take part in a discussion which turned wholly on pathological facts. His attention had been called more especially to the clinical aspects of the malady; nevertheless he was quite prepared to say that the reception which Sir W. Gull and Dr. Sutton's paper had met was hardly justifiable. He had listened to the paper and the remarks on it with great interest.

Dr. Gairdner (Glasgow) said that, like the last speaker, he was scarcely entitled to take part in a purely pathological discussion, as his opportunities of continuous study, from the anatomical and histological point of view, had of late years been few, and most of the disputed facts referred to were beyond his personal knowledge. He had, however, listened with great interest to Dr. Grainger Stewart's paper, and was disposed to concur in many of his conclusions. There was obviously a difference of opinion as to the use of the term "cirrhosis" in the case of the kidney, and this encouraged him (Dr. Gairdner) to remark that, in his own early studies upon the subject, he had been by no means convinced of the occurrence of *primary* intertubular changes in these cases, being rather of opinion that the apparent excess of the fibrous element was usually, if not always, the result of atrophic changes in the other elements, and of retrograde metamorphosis in the tubular and vascular tissues. The granulations, so called, were simply the still pervious, or, at all events, turgid tubules with their contents, surrounded and demarcated from each other by masses of shrunken and atrophied convolutions, in which fibroid tissue represented the remains

of all the other elements that had in great part disappeared. Dr. Grainger Stewart appeared to recognise this as, at least, one way in which kidneys might become granular, but he argued for a distinction from this of what he called "true cirrhosis," the latter being always dependent upon intertubular changes, as described by Virchow, and also by Dr. Dickinson, who, however, thought that all cases of nodulation or of granulations proper were due to primary intertubular changes. It was necessary to remark that the word granulation is often used equivocally, the yellow opacities, so well figured by Dr. Bright, and which we now know positively to be dependent upon degenerative changes within the tubules, being as often as not called granulations; while Dr. Dickinson's use of the word referred entirely to the nodular condition of the surface, which was undoubtedly atrophic, and had no necessary connexion with the other. Notwithstanding the high authorities to whom he had referred, he (Dr. Gairdner) was still not entirely convinced of the intertubular origin of granulations, but, if Dr. Stewart should succeed in establishing the pathological distinction and mode of origin of his "true cirrhosis," then the clinical history he now gave of it, and the view so clearly presented of its complications and pathological associations, would be fruitful in valuable results. To him (Dr. Gairdner) it had always appeared that the majority of cases of chronic Bright's disease were not of *intertubular*, but of *intratubular*, origin, and their true analogue was to be found in the various forms and stages of chronic capillary bronchitis, in which we find—(1) A leakage of the albuminoid elements of the blood, followed by (2) various degenerative changes in the epithelium, &c., extending over the interior of the ultimate bronchi, air vesicles, and intercellular passages; (3) Atrophic changes, leading, in some cases, to over-expansion; in others, to an almost entire disappearance of the textures of certain lobules, with correspondingly impaired function; (4) A frequent appearance of fibrous overgrowth, both in the emphysematous and the condensed and atrophied parts, between the remaining active lobules. In one point he was able personally to corroborate Dr. Grainger Stewart's clinical observations on the atrophied or cirrhotic kidney. It was a surprising fact, but still no less a fact, that a kidney in this condition might continue secreting an over-copious though depreciated urine, long after it had apparently ceased to contain almost any sound secreting structure, and after its actual bulk had been reduced probably by two-thirds.

Dr. J. M. Fothergill (London) said that some time ago he held several conversations with Professor Traube, of Berlin, as to the changes in the vascular system which followed upon chronic Bright's disease. Traube held that there were two forms of change—1, a degeneration of the coats; and 2, a true hypertrophy of the muscular walls of the arterioles. According to Ludwig and himself, this latter change was brought about by repeated spasm in these small vessels, from the action of the products of histolysis in excess in the blood upon the vaso-motor centre. This change in the arterioles caused obstruction to the blood-flow, and hypertrophy of the left ventricle followed; and the action of the two hypertrophied muscular ends of the arterial system against each other led in turn to overdistension of the elastic tubes connecting them, and so to atheroma. Thus rupture of a vessel in the heart was

common in these cases. As to Dr. Grainger Stewart's remark, that in time all kidney-disease tended to cirrhosis, he thought we should not overlook the effect of sustained hyperæmia in leading to an excessive growth of connective tissue. Such growth occurred in the brain, lungs, liver, and spleen, after prolonged hyperæmia; and its presence in the kidney under similar circumstances was but what might be expected.

Dr. George Johnson said that to discuss in a crowded room questions based upon minute points of anatomy, without the opportunity of appealing to specimens actually present, was in a high degree unsatisfactory. He would not occupy time by entering upon the disputed question of the intertubular character of the changes in the small granular kidney. He was prepared at any time to demonstrate by the aid of numerous specimens that the chief and the essential changes were intratubular; and he remarked, that those who adopted Virchow's doctrine did not even attempt to explain the striking appearances presented by the tubes which have been deprived of their epithelial lining—appearances which many years ago had formed the subject of a friendly controversy between Mr. Simon and himself, with reference to the minute anatomy of renal cysts. He was glad to hear that Dr. Grainger Stewart recognised the reality of hypertrophy of the minute arteries. Dr. Johnson, however, wished to say emphatically that the arteries of the pia mater, which had been chiefly examined by Dr. Stewart, were less constantly and decidedly hypertrophied than those in the kidney, in the skin, and in the mucous membrane of the intestines. Hypertrophy of the arterial walls implied a proportional overgrowth of all the tunics, of the external fibres as well as of the middle muscular. Dr. Johnson admitted the existence of atheromatous fatty, calcareous, and lardaceous degeneration of the arterial and capillary walls. He admitted, as did all pathologists, that inflammatory and tuberculous exudations often occur abundantly in the fibrous tunic of the minute arteries; but after a careful examination of the specimens exhibited by Dr. Sutton the day before in the museum, he saw in them nothing pathological. Three specimens of pia mater arteries mounted in glycerine had the fibrous tunic of the arteries distended and rendered hyaline; while in a fourth specimen, preserved in strong spirit and water, the arterial tunics were all corrugated, and the external tunics rendered coarsely fibrous; the changes being all artificially produced.

Dr. Sibson remarked that the discussion had been carried on by six of the men who had done more than any others to advance our knowledge of this important question. Although some of the speakers held strong and original views, yet each evidently aimed not at the triumph of his own views, but at the discovery of truth. Indeed, all felt that, if any two of the speakers, however apparently opposed in opinion they might be, came together quietly, as Dr. Johnson had suggested, with specimens and microscopes before them, they would, without difficulty, ascertain the truth and come to a common opinion. It was evident from the important communication of Dr. Grainger Stewart, containing a great body of facts bearing on the subject, and the discussion that ensued, that two different conditions of the artery were under examination. One of these conditions was degeneration of the walls of the small

arteries, which was apt, like atheroma, dilatation, and aneurism of the aorta, to take place in spirit-drinkers, which might be present with contracted kidney, that kidney-disease being also caused by spirit-drinking, but which might be, and often was, present without contracted kidney. The series of cases occurring in the Edinburgh Royal Infirmary, and observed and brought forward by Dr. Grainger Stewart, conclusively supported this view. The other condition was thickening of the muscular structure of the artery, which was present in the majority of cases of contracted kidney, though absent in a considerable minority of them, which was generally associated with thickening and enlargement of the left ventricle, and which was seldom observed in cases in which the kidney was not contracted. As a clinical worker, the speaker had for years observed, and carefully recorded, the effects of contracted kidney on the condition of the heart and arteries. In those cases he generally observed, though not always, tension of the arteries, evidenced by feeling, not the pulse, but the radial artery itself, tight and full under the finger, and capable of being moved backwards and forwards, and yet not presenting the hard, beaded surface of atheromatous artery; the pulse being, at the same time, very feeble and soft, and in marked contrast to the tight condition of the artery. The sphygmographic tracings of the pulse gave evidence of the great arterial tension. The ascending aorta presented the signs of great tension and enlargement. The first sound was very feeble, often quite absent, owing to the blood being gradually injected into an artery already tense with blood, and the second sound was loud, ringing, and extensive, especially to the right of the upper sternum. The impulse of the enlarged and tense artery could, in some cases, be felt beating in the second right spaces; and in these and other cases in which the pulsation of the artery could not be perceived, sphygmographic tracings were obtained by placing the sphygmograph and, on some occasions, the modified cardiograph over the ascending aorta. In some instances the size of the aorta increased to such an extent that a diastolic aortic murmur was audible, owing to slight regurgitation from insufficiency of the aortic valve; and, in one case recently observed, the diastolic murmur appeared and disappeared on several successive occasions, the alternate appearance and disappearance of the murmur being evidently associated with the alternate increase and diminution of the tension and size of the arch of the aorta. The left side of the heart was, at the same time, in these cases, enlarged and beating over a large area, and with increased force, and doubling of the first sound was audible over the interventricular furrow, and sometimes over both ventricles, the *finer* first sound due to the closure of the contraction of the right ventricle, the second *finer* sound to the delayed closure of the contraction of the left ventricle, owing to the difficulty with which it emptied itself into the tense arteries, and the increased time therefore required. The tension of the arteries, the thickening of their walls, the enlargement and thickening of the left ventricle, were all due to one common cause—the difficulty of sending the poisoned blood, poisoned owing to the kidney disease, through the smaller vessels. The paper read by Dr. Grainger Stewart, and the discussion, had done much to make this difficult, and apparently contradictory, question clear, and to show that we have to do not with one, but with two conditions—

one, degeneration of the arteries; the other, thickening of their muscular fibres. The thanks of the Section were eminently due to Dr. Grainger Stewart, and to the gentlemen who had taken part in the discussion, for this important contribution to our knowledge of disease.

ART. 69.—*Chronic Bright's Disease in a Syphilitic Patient.*

By REGINALD SOUTHEY, M.D.

(*British Medical Journal*, October 25.)

At a meeting of the Clinical Society of London, October 10th, Dr. Southey read the account of a case of chronic Bright's disease in a young man, aged twenty-one, the subject of syphilis. The patient had had scarlet fever when a child, and had suffered with dysentery several years previously. The first symptom which led to his admission into St. Bartholomew's Hospital was erysipelatous inflammation of the left ankle, following a trivial injury. His urine was loaded with albumen, but was always excessive in quantity; its daily average was 50 ounces, but on many days more than 70 ounces were passed. His temperature was invariably at or above normal, and he presented very trivial anasarca during his illness. Generally his appetite was good, but at times he suffered in the morning, sickness, and had severe colicky pains. Among the anomalous symptoms noted were the following: bright red patches of erythema came out on different portions of his body, sometimes on the face, at others on the trunk and limbs; they were attended by febrile symptoms, and coppery-coloured stains marked their situation for awhile. Their disappearance was usually attended with the most profuse perspirations or critical sweats. These rashes, as well as transient mottlings of the arms and legs, and sudden transitory attacks of acute pain in the calves, loins, and back, were attributed, by Dr. Southey, to the syphilitic poisoning, of which there was further confirmatory evidence in amygdaloid cervical glands, and scars of old buboes in both groins. After being two months under observation, during all which time the microscopical characters of the sediment of his urine varied very little, fatty and granular casts of varying size being always present, although never in large quantity, he was suddenly seized with rigors of a most severe kind. His temperature rose to 103.2; he complained of general pains in different parts of his body, and especially of headache, localized behind his ears. This was followed by profuse sweating, which afforded some relief. For three successive days these ague-like attacks were repeated. The abdomen then became tympanitic and tender, and acute peritonitis supervened, to which he succumbed after a few days; his temperature gradually rising up to 106, which it reached twelve hours before death. At this high temperature he passed into an insensible state, with protruded eyeballs, dilated pupils, and stertorous breathing; but up to this period, his intellectual faculties had never been clouded, and he never exhibited any epileptic convulsions. The necropsy revealed old as well as recent peritonitis, large and soft liver and spleen, large pale fatty kidneys, the

pair together weighing $17\frac{1}{2}$ ounces. All the viscera were examined by iodine, but did not furnish any amyloid reaction.

ART. 70.—*Treatment of Diabetes by Arsenic.*

By MM. A. DEVERGIE and FOVILLE.

(*La France Médicale*, Nos. 22, 23, 24.)

MM. A. Devergie and Foville (fils), after alluding to the different modes of treatment suitable for different cases of diabetes, and even in different stages of the same case, and to the difficulties in regulating the diet so as to keep out articles capable of being transformed into sugar, point out how very few efforts are made to attack the *cause* of the disease, and how important it would be to discover a remedy which would in many cases diminish the sugar in the urine. This power they claim to have discovered in arsenic, and they support their view both by clinical results and physiological deductions. These we briefly abstract. Devergie, about twelve years ago, had to treat an excessively bad case of prurigo vulvæ. Nearly every remedy had been tried unsuccessfully. Arsenic was tried, and at the same time diabetes was diagnosed and verified. Both diseases rapidly improved under the use of the arsenic. Since this Devergie has in many other similar cases had the same results, both in cases accompanied by prurigo, and also in diabetic cases in which no prurigo existed. He, however, advises that in every case of prurigo in the female the physician should pay attention to the condition of the urine. Dr. Foville (père) employed arsenic in diabetes first in 1857 with success, the patient only dying recently, and has since used it in many cases, some of whom notice the recurrence of the diabetes on the cessation of the arsenic. Encouraged by these cases, Dr. Foville (fils), in 1868, expressed his strong confidence in the powers of arsenic in diabetes. Drs. Jaccoud and Titon give equally favourable opinions. On the other hand, other authorities have not been equally successful—*e.g.*, Bouardel, Berndt, and Troussseau. These facts would prove that there are different forms of diabetes, in some of which the use of arsenic is valuable, in others it is unsuccessful. The best form of the drug is Fowler's solution, and it should be given twice daily in doses gradually increasing from one to six or seven drops; these should be continued for a considerable time, only interrupting it now and then for a few days, and then beginning again with half the dose at which it was left off. The physiological presumption on which the use of arsenic is based, is that the cause of diabetes being a permanent relaxation of the capillaries of the liver, due to paralysis of the sympathetic nerve, we must treat this paralysis; and for this arsenic seems very suitable, from the good effects of that drug in intermittent fever, in exophthalmic goitre, &c. Cahen, in a memoir which obtained a prize from the Institute, attributes to arsenic a special power in functional derangements of the vaso-motor system.

ART. 71.—*On the Etiology of Albuminuria as deduced from an Analysis of 200 Consecutive Cases.**

By GEORGE JOHNSON, M.D., F.R.S.

(*The Lancet*, June 7, 1873.)

About ten years since the author had made a tabular analysis of nearly 300 cases of albuminuria. In each case special inquiry had been made as to the probable exciting cause of the malady, and in the tabular statement of the main points in the history of these cases, one column is set apart for the etiology of the disease. Some recent discussions on the influence of alcohol in exciting diseases of the kidney had led him to refer to his analysis of cases for evidence bearing upon this question; nine-tenths of the cases analysed belonging to the class of hospital or dispensary patients. Taking 200 consecutive cases, it is shown that the various etiological influences, single and in combination, come under no fewer than 33 heads. It is also shown that scarlet fever, intemperance, cold, wet, and gout—these influences, either single or combined, account for 120 cases out of 200, or 60 per cent. Thus, albuminuria was probably the result of scarlet fever in 24 out of 200 cases, or 12 per cent.; of intemperance in 28, or 14 per cent.; of intemperance and gout in 12, or 6 per cent.; of intemperance and cold in 12, or 6 per cent.; of gout in 8, or 4 per cent.; of cold and wet in 23, or 11·5 per cent.; of cold in 13, or 6·5 per cent. It is shown that intemperance, either alone or combined with other influences, was the probable cause of albuminuria in 58 out of 200 cases, or 29 per cent. Of these 58 cases, in 28 intemperance was believed to be the sole cause; in 12 intemperance with gout, in 12 with cold, in 4 with syphilis, and in 2 with lead. Cold, either alone or combined with other influences, was the exciting cause of albuminuria in 25 per cent. of the cases. In 6·5 per cent. cold alone is believed to have been the cause of albuminuria, in 11·5 per cent. cold and wet, in 6 per cent. cold and intemperance, and in 1 per cent. cold and fatigue. It appears, then, that albuminuria was associated with scarlet fever in 12 per cent. out of 200 cases, with exposure to cold and wet in 25 per cent., and with intemperance in 29 per cent.

The following table shows the proportion per cent. of deaths, recoveries, and of persistent albuminuria in cases resulting from—1. Scarlet fever. 2. Exposure to cold and wet. 3. Habits of intemperance.

	Scarlet Fever.	Cold and Wet.	Intemperance.
Deaths	45·83	27·5	67·23
Recoveries	50	38·88	10·36
Persistent albuminuria .	4·16	33·33	22·41

Of the 58 intemperate patients, 11 were women and 47 were men. In 5 cases out of the 47 men the occupation had not been recorded. Of the 42 men whose occupations had been noted, 5 were waiters. The remaining 37 intemperate men had no fewer than 30 different occupa-

* Read at a Meeting of the Royal Medical and Chirurgical Society, May 27.

tions, not one of them connected with the manufacture, sale, or distribution of alcoholic liquors. Evidently, then, it is not right to assume that men in the class of hospital patients who are not engaged in the liquor trade, and not notorious drunkards, may be placed in a "non-alcoholic" class.

The excess of Bright's disease amongst males, as compared with females, is explained by the fact that, as a rule, men are more intemperate and more exposed to cold and wet than women. Amongst the cases analysed, 76 per cent. were males and 24 per cent. females. Out of the 58 cases associated with intemperance, 83 per cent. were males; and of the 36 resulting from cold and wet, 77 per cent. were males.

In addition to the causes of albuminuria before referred to, the following influences appear to have been causative, the figures showing the proportion per cent. in a total of 200 cases:—Typhus fever, 4; typhoid fever, 1; erysipelas, 1; pyæmia, 1; measles, 1; rheumatic fever, 1; purpura, 1; cholera, 2·5; whooping-cough, ·5; diabetes, ·5; syphilis, 3; phthisis, 2; venereal excesses, 5; poverty and hard work, 2·5; emphysema and bronchitis, 3·5; morbus cordis, 3·5; scrofulous disease of bones and joints, 2·5; scrofulous abscess, ·5; pneumonia, ·5; lead, 1; tropical climate, ·5; hydrophobia, ·5; mental anxiety, 1·5; pregnancy, 2·5. The result of the author's later disease would be to add to this long list of causes of albuminuria, particular reference being made to diphtheria, relapsing fever, malarious fevers, yellow fever, and to certain forms of dyspepsia, either with or without an excessive consumption of alcohol or of tobacco, as causative of albuminuria and degeneration of the kidney.

Dr. Dickinson said much caution was necessary in tracing albuminuria to drink. Both albuminuria and the use of alcohol were so common in this country that it was inevitable that a considerable portion of those so suffering might be, unless drink was a sure preventive, charged with intemperance. This would happen with any disease which affected adults; with a parasitic affection, for instance, like scabies, a large number of the sufferers could undoubtedly be convicted of alcoholic excess. Any such tabulations as those just given, compiled with the object of tracing renal disease to drink, must be received with much hesitation. The figures implied no more than that, of a certain number of persons, so many could be accused of the liberal use of alcohol. Looking at the statistical details, it would be seen that intemperance was assigned as a cause in 29 per cent. (more than one-fourth of all the cases)—an incredible proportion, considering how many women and children must belong to the number. According to that, intemperance was a more common cause of albuminuria than scarlatina, cold, or any other cause. Other causes had obviously been underrated; phthisis was credited with only 2 per cent., syphilis with 3 per cent. The cases of lardaceous disease, so common in hospital practice, amounted altogether, so far as could be judged by the statement, to only 8 per cent. Diseases of the heart, frequently as such disturbances made the urine albuminous (and the paper dealt only with alteration of the secretion), caused albuminuria only in 3 per cent. Lead was credited with only 1 per cent.—a startling conclusion, for lead was the most injurious of all foreign bodies as a cause of renal disease. It was the most common

cause of granular degeneration of the kidneys. Of forty-five men, hospital patients, taken without selection save that they all died with granular degeneration, ten were workers with lead. Then, on the reverse side, of workers with lead dying of all causes, accident or disease, during seven years, more than a half had granular kidneys. This connexion was well known to those who had to do with hospital patients, and yet was represented by only one per cent. in the tables. Thus other causes appeared to have been dwarfed so as to give greater prominence to alcohol. Then Dr. Johnson had examined 200 cases, and had found the cause in every instance. A great number of these must have been granular degeneration, the result of hereditary, climatic, senile, or other obscure influences. He had examined cases, and could come to no conclusion as to the cause in more than a half. Again, if alcohol had this overbearing influence, then all over the world renal disease ought to be more or less common; but this was not found to be so; it varied according to climatic influences. From the army returns we could tell the amount of renal disease in our garrisons throughout the world; and albuminuria did not depend so much on alcohol as on climate. It was a disease of temperate climates, and those chiefly where the temperature was most variable. Not temperance but temperature gave immunity. Again, renal disease should preponderate in those cases where there was a peculiar access to alcohol; but it was not found to do so. In a paper he had read before the Society he had endeavoured to prove this. Dr. Johnson had taken exception to his headings of alcoholic and non-alcoholic with reference to the two classes, as though he had inferred that the use of liquor was all on one side. He had only wished to show that there was a sufficient excess of liquor on one side to influence the pathology. If this were denied, he would like to ask why potmen, draymen, &c., died in great numbers between thirty and forty years of age? Why they suffered as they did from disease of the nervous system? why their serous inflammations suppurated? why their wounds refused to heal? and, above all, why they had cirrhosis of the liver nearly three times as often as the class with which they were compared? The fact must be evident to every one that those persons who drank more than others suffered more from it, and might be fairly used to supply some information as to its consequences. The comparison was not so neat as one between drunkards and teetotallers. He did not use that, not being able to get at it. In conclusion, he thought it clear that alcoholic drinks caused a red enlargement of the kidney, and had a certain effect in bringing on granular degeneration—a change analogous to cirrhosis of the liver; but the effect of drink in this respect was more marked upon the liver. Alcohol sometimes, but rarely, set up acute tubal nephritis. It had no power to cause lardaceous disease. The effect of alcohol upon the kidneys had been very much exaggerated, and never on more insufficient evidence than in the paper just read.

Mr. Henry Lee did not think the discussion should be altogether on the side of the physicians. Surgeons also saw something of albuminuria, and that independently of disease of the kidney, as from congestion of the urinary organs albumen in urine resulted. He remembered a case some years ago of a patient who was supposed to have disease of the

kidney. A consultation was held, and the man was sent to India to die of chronic albuminuria. He returned after a time, and died of apoplexy. There was no disease of the kidney, but an intussusception of the ureter; the albumen was persistent. Then albumen was often met with from inflammation of organs. With regard to alcohol, he thought many things might do quite as much harm, as the balsams, turpentine, &c., as are found in gin.

Mr. Callender said he would like to ask Dr. Johnson about the prevalence of albuminuria among Mussulmans. It was said to be exceedingly rare. He thought this might have some bearing on the question, as they were by practice teetotallers.

Sir William Gull said he was astonished that the Society should be discussing the causes of albuminuria; he looked upon it as a sign of retrogression. He was quite surprised to hear albuminuria talked about as though it could be settled by statistics. Dr. Johnson said he had ascertained the cause in 200 cases. What Dr. Dickinson had said was fully the case; in two cases out of five the cause could not be found. It was frequent in boys above puberty, but it was not found out because it was not looked for. But in weak, delicate patients the urine might be loaded with albumen; what was the cause he could not say. Then, again, in men over fifty-five, in the disease he had brought forward, "arterio-capillary fibrosis," the causes could not be made out; he believed it was due to changes in the vessels quite apart from the kidney, and not from alcohol, cold, &c. Then cold was said to be a cause; but who had not had a cold? And because a man got a cold, did he get albuminuria? He thought such statements too vague. We ought to consider the forms, &c., of the kidney disease, the state of the urine, &c.; for although albumen was present in the urine, yet as long as the salts of the urine were secreted, health was maintained. This must be thought of; the causes were not known, and were often very remote.

Dr. George Johnson, in reply, said that Dr. Dickinson thought the greater part of the paper was directed against him; it was against what he thought was the necessary conclusion from Dr. Dickinson's paper. Briefly, Dr. Dickinson did this; he took the post-mortem records for thirty years, and divided them into those who had traded in, or had to do with liquor, and those who had not. These were not general patients, but those who had died in hospital. Intemperance was said to be more among the first than the latter, who were not in the liquor trade. But among hospital patients intemperance was very common, nearly three-fourths intemperate, and their diseases were dependent upon that. So he did not think it was sufficient to take post-mortem examination, but the habits of each patient should be inquired into, and not assumed that men not in the liquor trade had not had access to alcohol. Then Dr. Dickinson was astonished at the small number of cases from heart disease. The two were often associated, but heart disease was more often the consequence than the cause of Bright's disease; the renal disease the primary, and the heart disease the secondary. So with regard to lead; many men had been exposed to it; but painters were often drinkers, so he attributed to alcohol what Dr. Dickinson said was due to lead. It was hasty to assume that every plumber who got

kidney disease got it through lead and not through alcohol. Sir William Gull was astonished that albuminuria should be discussed there to-night: he had only brought forward the exciting causes so as to afford trustworthy results. Then he was surprised that the cause had been discovered in so many cases: he had only taken 200 cases in which a cause could be found, and had omitted the others. As to the cause of albuminuria in the young subjects of whom Sir William Gull spoke, though at times it was difficult to find it, yet often it could be traced back to scarlet fever or measles. Sir William Gull thought a mere chill could not be a cause; but if cold caused other diseases, as pneumonia, &c., why not albuminuria? But on this point Sir William Gull and Dr. Dickinson disagreed, Dr. Dickinson attributing much more influence to cold than to alcohol.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 72.—*On Acute Febrile Pemphigus.*

By M. HORAND.

(*Annales de Dermatologie et de Syphiligraphie*, No. 6, 1873.)

The author reports two cases of this affection, and concludes his contribution with the following remarks:—

“Is this affection an eruptive fever, as some authors assert, or is it a hitherto unclassified special exanthem? I propose now to deal with these two questions.

“Is it an eruptive fever? In my two cases neither the febrile disturbance nor the eruption comported themselves as in an eruptive fever. The eruption manifested itself in successive attacks—a course never observed in scarlet fever, measles, or small-pox. The pulse and temperature tracings also differ essentially from those which characterize these eruptive fevers. Thus, with my two patients, the prodromic fever was much less intense. The frequency of the pulse and the elevation of the temperature coincided with the generalization of the eruption, and also with the generalization of a certain number of bullæ. Besides, acute pemphigus is neither contagious nor inoculable, and these two characters are not the least important for the distinction which I endeavour to establish. The resemblance between acute pemphigus and the eruptive fevers, with regard to course, is found to be not very close on study of the details. Therefore, for the reasons just given, it seems to me that acute pemphigus cannot be assimilated to scarlet fever, measles, or small-pox. This is a view that has already been held by several authorities, including Gilibert.

“There exists, however, another exanthem, classed among the eruptive fevers, with which acute pemphigus presents numerous analogies. I allude to varicella. Franck has admitted this analogy, and has associated varicella with pemphigus, under the name of pemphigus variolodes. Gilibert agrees in this view, and holds that acute pemphigus is allied to varicella, and that it especially resembles the third variety of the latter affection.

"Varicella in fact, like acute pemphigus, is neither contagious nor inoculable, as has been proved by numerous experiments made by Trousseau, Delpech, and many others. Moreover, there exists a variety of varicella, to which has been given the name of bullous or pemphigoid varicella, a variety which, according to Gintrac, is not very rare, and which resembles pemphigus not only in the size of the bullæ, but also in the fact that the eruption comes on in successive attacks, which prolong the duration of the disease. Varicella, stated Trousseau, may be combined in the form of veritable pemphigus.

"Numerous reasons favour the view of the alliance of varicella and pemphigus. But—I should at once state it—varicella is not classed among the eruptive fevers, except by authors who are as yet undecided concerning the nature of the disease.

"If, then, acute febrile pemphigus cannot take a place among the eruptive fevers, does it constitute a special febrile exanthem? I do not think so. The disease, two examples of which I have described, and to which I have given the name of acute febrile pemphigus, is characterized by febrile disturbance and an herpetic eruption, the word herpetic being taken in the sense of vesicular. But M. Parrot, in an excellent work, published in 1871, grouped under the denomination of herpetic fever several diseases to which authors have given different names, such as synochic fever, continued fever, ephemeral fever, angio-tenitis, &c. The important characters of this fever, according to M. Parrot, are the close relations between the febrile disturbance and the herpetic eruption. In all cases the fever is the same, he says; it undergoes variations in quantity, but its quality remains identical. M. Parrot, it is true, does not speak of acute febrile pemphigus, but probably this is because he had no opportunity of observing this malady. However this may be, I do not hesitate to rank acute febrile pemphigus in this class, and this view might altogether remove the objection which may be stated against M. Parrot—which objection he has refuted in advance—with regard to the considerable disproportion which sometimes exists in herpetic fever between the cutaneous lesion and the general symptoms. But probably it may be asked why I do not rather regard acute febrile pemphigus as a generalized febrile herpes? This probable objection I will now endeavour to deal with.

"In 1865 my colleague, M. Boucaud, directed the attention of the profession to febrile herpes, and in alluding to a reported case made the following remarks: 'I am induced to place this multiple and febrile herpes among the pyrexia, and by the side of erysipelas and erythema nodosum—that is to say, by the side of non-contagious and relapsing eruptive fevers.' Subsequently, M. Coutagne studied and carefully described this febrile herpes, to which he gave the name of generalized febrile herpes, distinguishing it from the herpetic fever of M. Parrot, and acute febrile pemphigus.

"It seems to me that nothing resembles more the herpetic fever of M. Parrot than the febrile generalized herpes of M. Coutagne. One case described by M. Coutagne as generalized febrile herpes, was actually referred to by M. Parrot as a case of guttural herpes, and four other cases presented very close analogies to cases of acute febrile pemphigus.

"According to M. Coutagne, acute pemphigus differs essentially from

generalized febrile herpes. In the cases of acute pemphigus which he observed, the eruption, he says, never recalled to his mind that of herpes. The large size of the bullæ, the almost complete absence of areolæ, the presence and persistence of bullæ in parts supplied with thick dermis, such as the palms and soles, could not permit of doubt as to the diagnosis.

“M. Coutagne, on the one hand, does not seem to have met with true cases of acute pemphigus, and, on the other hand, the characters which he makes use of in order to distinguish acute pemphigus from generalized febrile herpes seem to be far from sufficient. From an histological point of view, the bullæ in no respect differs from the vesicle, and the terms bullæ and vesicle only indicate more or less difference. The clinique often furnishes proofs, especially in cases of varicella, that vesicles may be met with which exceed in size a millet seed, the dimensions usually assigned to a vesicle. In my two patients, especially in the second, enormous bullæ co-existed with a great number of vesicles, both solitary and grouped. On the labial and buccal mucous membranes one meets only with vesicles, or at the most but very small bullæ. Moreover, M. Coutagne himself admits that the eruptions described in his reported cases belonged to that variety which is known generally under the name of phlyctenoid herpes.

“The absence or presence of an areola can no longer serve to differentiate generalized febrile herpes from acute febrile pemphigus. This areola signifies only that the contents of the vesicle or bullæ exercise such a pressure on the subjacent vessels, that the blood can no longer circulate in them. As I was able to observe in my own cases, it is to be met with both in the bullæ and in the vesicle.

“With regard to the seat of the eruption, this is the same in acute pemphigus and in generalized febrile herpes. On turning to the cases reported by M. Coutagne, I find given as the seats of vesicles, the lips, the tongue, the isthmus faucium, the conjunctivæ, the limbs, &c.: in my own patients all those regions were equally invaded.

“I have not found any differences in the periods of invasion and of eruption, such as have been described by M. Coutagne, for the temperature curves present close analogies. Finally, as in my patients, M. Coutagne made out in his cases, persistence of fever long after the appearance of the primary eruption, this being due to the successive attacks.

“Why then, I ask, separate acute febrile pemphigus from generalized febrile herpes, since these two affections have so many points of resemblance? In my two cases I had to deal with a generalized herpetic eruption in successive attacks, and with guttural manifestations and pyrexia. Why also separate generalized febrile herpes from herpetic fever?

“Let us, then, following M. Parrot, associate together conditions which do not differ from one another, and regard varicella, generalized febrile herpes, and acute febrile pemphigus not as distinct maladies but as simple varieties of herpetic fever.”

ART. 73.—*On Traumatic Herpes.*

By M. VERNEUIL.

(Gazette Médicale de Paris, Nos. 20, 22, 23, 25.)

According to M. Verneuil, the nerve lesion capable of giving rise to vesicular eruptions having the character of herpes or zona, is probably a neuritis, which may be spontaneous, or consecutive to an injury, a wound, contusion, compression, &c. Hence surgeons should count herpes among the complications which may present themselves in the course of treatment of injury or an operation; they must, in other words, admit a "traumatic herpes." Recognising traumatism as a very general pathogenic cause, it is easy to understand that it may give rise to herpes as well as to erysipelas, tetanus, or any other accident of wounds; it remains to investigate the conditions under which this cutaneous manifestation may show itself. M. Verneuil endeavours to discover these conditions by the examination of a short series of cases:—1. A case of fracture of the base of the skull; lesion of several motor nerves; zona of the face. 2. A case of amputation of a finger; neuralgia of the stump; herpes of the stump and of the lips. 3. White swelling of the knee; fruitless efforts at conservation; very violent pains; amputation of the thigh; divers nervous accidents; herpetic eruption of the stump. 4. Hydrocele, double puncture, inflammation of the tunica vaginalis; herpes of the thigh; death. 5. Division of the soft palate (for removal of polypus); guttural and labial herpes. 6. Extirpation of the breast, labial and thoracic herpes; diphtheroid aspect of the wound; cure. After carefully analysing these and other cases, Verneuil concludes that herpes may show itself during the evolution of an injury as an independent intercurrent affection; but that it may certainly also arise from that wound, and be really of traumatic origin. Three forms may be distinguished—peripheral herpes, contiguous herpes, distant herpes. It may show itself during the work of reparation—precocious herpes, or a long time after cicatrization—delayed herpes; it may or may not be accompanied by general phenomena. It follows either on the wound of a nerve-track, or of a ganglion, or of a common wound where the ends of the nerves are alone concerned. In certain cases it may be explained by a traumatic neuritis; but in others either reflex action or blood change must be invoked. The prior hæmopathic condition of the patient seems to predispose to the development of traumatic herpes. Traumatic herpes may relapse; it may coincide with erysipelas, and simulate the vesicular variety of that disease. The development of precocious and febrile herpes is accompanied by a change in the granular membrane (which recalls what has been described under the name of diphtheria of wounds), and by a sharp but temporary hyperæsthesia of the wound. The prognosis of traumatic herpes is generally favourable except in the case of septicæmic hernia, but its gravity depends then on the general malady. Herpes at a distance is ordinarily fugacious, and does not compromise cicatrization. Peripheral herpes may be more tenacious; it follows the fate of the neuritis, of which it is only a symptom.

ART. 74.—*Case of Painful Neuroma of the Skin.*

By LOUIS A. DUHRING, M.D., Clinical Lecturer upon Diseases of the Skin in the University of Pennsylvania, and Physician to the Dispensary for Skin Diseases, Philadelphia.

(*American Journal of the Medical Sciences*, October.)

Under the name of painful neuroma of the skin, Dr. Duhring describes the following case, which has been under his observation for the past six years, and was kindly placed at his disposal by his friend Dr. F. F. Maury, in whose ward at the Philadelphia Hospital the man is at present.

“David W., aged seventy, Irish, boiler-maker, but of late his trouble has incapacitated him for any kind of labour. His previous health has been excellent, and none of his family or relatives ever presented any disease similar to that from which he is suffering. About ten years ago he first noticed the presence of a few small round nodules, situated in the skin of the left shoulder, attended with decided itching, but without pain. These nodules soon multiplied and increased in size. For four years they continued to appear in numbers, and by the end of this time the arm and shoulder were well studded with them. For the past five years their increase in number has been slower, but new ones have continued to appear up to the present time. Some of the older nodules have grown somewhat in size during the past five years. He is quite positive that it was not until three years after the first elevations were noticed that there was any pain in or about them. Such are the important points in connexion with the early history of this case. Since I first saw the patient, six years ago, there has been but little change in the appearance of the growth, with the exception that new scattered tubercles have developed at various points.

“The disease is now characterized by the presence of numerous small, rounded, hard nodules, occupying the left scapular region, shoulder, and outer surface of the arm, as far down as the elbow. They are incorporated with the skin and subcutaneous tissue; vary in size from that of a pin’s head to that of a large pea, and at certain points are situated closely together. They are elevated from one to four or five lines above the level of the surrounding healthy skin, and present a marked tubercular, knotty appearance. They are firmly seated in the skin, and are in no instance pedicellated. Over the shoulder and arm, at the insertion of the deltoid muscle, the tubercles are closely packed together, and the intervening skin, though not tuberculated, is involved with the same new growth. At this point it presents a solid mass of hard tubercular tissue. The surface is rough and nodular; about the scapular region, as well as further down the arm, the nodules are more scattered and isolated, the skin between them being perfectly normal. The tubercles are scattered in irregular form, and without definite arrangement. They do not occupy any particular nerve tract. The affected side of the body, including the arm, corresponds in size with the healthy side. The diseased skin varies in colour according to locality. Where the affection

is most marked, about the shoulder, the tubercles are of purplish-pink colour, with a somewhat mottled appearance. Where they are isolated, their colour is pinkish and lighter in shade, being more of the hue of the normal skin. But the colour of the whole surface is subject to great variations, according to the position of the limb, external applications of one kind or another, as cold or heat, and the subjective symptoms. The tubercles are here and there covered with fine yellowish-white laminated scales, consisting of imperfectly-formed epidermis, which are firmly attached, and cast themselves off only slowly. These scales give to some of the older tubercles a whitish, glistening appearance. There are no tubercles or signs of the growth on the under surface of the arm, from the axilla down to the elbow. The skin here is smooth and normal in every respect, and can be freely handled without producing any uneasiness or pain. The tubercular mass about the shoulder and arm is warmer to the touch than other portions of the arm. During a paroxysm the part is quite hot, and remains so for some time after the pain has subsided. The nodules are all more or less painful when touched or pressed upon. There are no blood-vessels visible upon the surface of either the central mass or any of the distinct tubercles.

“The original starting-point of the affection appears to have been at or about the insertion of the deltoid muscle, for here the tissues are now thickest and the pain most severe. During a paroxysm of pain the tubercles and skin involved change colour rapidly, passing through various shades until they become purplish and even livid at times. As the paroxysm is ushered in, and while it is at its acme, the parts are seized with a quiver, which extends over the whole arm and is paroxysmal, occurring every few seconds during the height of the attack.

“Intense pain, of a paroxysmal nature, constitutes the distressing feature of the disease. This was developed gradually, first showing itself about three years after the appearance of any external manifestation, and soon increased in severity, keeping pace with the development of the disease. For the last five or six years the pain and paroxysms have been about the same in degree and character. The pain during a paroxysm is excruciatingly severe, and from my repeated observations of these attacks I doubt if any words can fully express the amount or character of the suffering the patient undergoes. As the pain comes on, he endeavours to support the affected arm with the other hand, pressing it towards the body, but he dares scarcely touch it, for so sensitive is it now that even the breath blown upon the surface excites additional pain. At one time he endures the paroxysm in the standing position, or he seats himself upon a chair or the floor, and remains in a cramped condition, unmindful of all surroundings, until the extreme pain ceases. Frequently his sufferings are so severe that he is unable to contain himself, and he cries out so vehemently and piteously that he can be heard all over the building. Frequently I have seen him roll over the floor in agony, unable to control himself.

“This very intense suffering remains at its height but for a short time, from ten minutes to a half-hour, when signs of abatement are noticed, and in an hour or two the attack subsides. In attempting to describe the nature of the pain, beyond the fact that it is indescribably painful, we can learn but little concerning it. He has frequently, however,

compared the sensation to a stream of ice-cold water running down the arm, together with the pain of burning and pricking.

"The paroxysms vary in duration and in frequency of occurrence. They also vary in intensity, according to the immediate cause which has occasioned them. When slight, an attack lasts perhaps ten minutes, or if severe, an hour. If quiet and undisturbed, and with the part protected, there may be but one or two paroxysms in the course of the day, but if the patient becomes worried or excited from any cause, or if the arm be exposed to violence, the attacks are much more frequent and correspondingly violent. Exposure to cold invariably causes pain, while rough handling or pressure of any kind is inevitably followed by severe paroxysms. Any movement of the arm, as necessarily occurs when his garments are changed, always gives rise to an attack of more or less severity. The lightest draught of wind is all-sufficient to produce a paroxysm. The pain is influenced very much by the condition of the weather. Of this fact the patient assures me positively, and the statement is confirmed by the nurses and his fellow patients, who have him continually under observation. He is always much worse the day preceding a storm or a great change in the weather. He is always worse and suffers more during a rainy or snowy season. He is decidedly better in summer than winter.

"The area of pain is much larger at the present time than it was a few years ago, but this is accounted for by the development of new tubercles in tissue previously healthy. The pain in a severe paroxysm shoots rapidly down the arm, even as far as the knuckles; it also spreads itself over the pectoral region, and up the side of the neck and head. The patient complains of a buzzing, singing sensation in the head, which he affirms is almost constant, and of late has been increasing in intensity. A neuralgic pain is also present in the head at times, which is liable to exacerbations during a paroxysm. His general health and condition are remarkably good considering his sufferings. His appetite is not wanting, and when free from a paroxysm he is able to rest and sleep quite well. The paroxysms, however, frequently awake him out of a comfortable sleep.

"Before entering the Philadelphia Hospital, with a view to obtain alleviation of pain, he submitted to having the arm and shoulder thoroughly blistered on several occasions, which proceeding, he thinks, gave him some relief for a period of six weeks; but his memory is rather vague concerning the past, and it is to be considered that this statement cannot be accepted without reserve. Since his admission to the hospital various means and remedies for his relief have been tried, but without the desired result. Hypodermic injections of morphia have frequently been administered during the paroxysms, with a view of checking their violence, but even with large doses the end has scarcely been attained. The relief afforded by this means is not material, and the after effects upon his head are so unpleasant that he pre'ers to endure the pain. Steam baths to the part have also been employed, but with little relief. Direct dry heat undoubtedly affords more ease than any other application that has been made, and he is never so comfortable and free from pain as when sitting close to a hot stove or fire with the arm exposed to the heat. When a paroxysm comes on he at once seeks the fire, and there remains until the pain has abated.

“With the hope of ascertaining the nature of the disease, the man consented to the excision of several of the tubercles. Three were selected in different regions as being most characteristic of the affection. Two of these were situated in the central mass, about the shoulder, and the third was a well marked, comparatively recent, isolated tumour, seated in the skin of the back about one inch to the right of the spinal column. The patient was etherized, and the growth removed, care being taken to include a considerable portion of the subcutaneous tissue with the incision. Unusually severe pain, continuing for several days, followed the operation, due in a great measure to the state of excitability which the whole proceeding occasioned, excitement of mind being always followed by an aggravation of the sufferings. Very little hæmorrhage occurred. The wounds were very slow to cicatrize. The nodules directly after removal were of the size of large peas, irregularly rounded and defined, firm and quite hard to the touch, and of a dirty white colour. Cutting one of them open vertically, the internal surface presented a dull white colour, affording scarcely any blood or fluid upon pressure. The cut surface appeared homogeneous and solid throughout to the naked eye. The growths were not found to possess any filamentous attachments of any kind. The specimens were immediately placed in alcohol and a solution of bichromate of potassa, preparatory to microscopical examination. After carefully imbedding small vertically cut pieces in wax, thin sections were made with a razor, and examined with glycerin. Some of the specimens were stained with a chloride of gold solution of $\frac{1}{2}$ per cent. strength, while others were coloured with a carmine solution. Many sections were submitted to close examination, with the following result:—The epidermis was irregular and uneven in structure, and here and there completely broken down. The rete was imperfectly developed in certain of the sections, at one point showing normal growth and arrangement, while in other specimens there appeared an abnormal distribution of the younger cells. A singular concentric formation of the cells of the rete was here and there noticed, resembling the globular arrangement of epithelioma, but this condition was not universal, occurring only in certain sections. The papillary layer was irregularly developed. The papillæ were here and there greatly hypertrophied. The corium was abnormally infiltrated with new connective tissue growth which was firm in structure. The tissues beneath and the mass of the specimen consisted of a solid, resistant looking connective tissue, irregularly developed and uneven in arrangement. The bulk of the tissue was old in appearance and well felted together, the new cell elements being entirely wanting. The connective tissue fibrils were closely packed, in places forming wave-like bands. There were also numerous free fibrils of elastic tissue scattered here and there through the specimens, particularly in the deeper portions of the tubercle, where in places they formed a delicate network. Here and there filaments appeared isolated, resembling very much fine nerve fibres. But among the many sections examined with the utmost care it was impossible to find either nerve trunks or branches.”

This case, Dr. Duhring remarks, is without a parallel in medical literature.

ART. 75.—*Elephantiasis Arabum treated by Tincture of Iodine Internally and Externally.*

By Dr. OLAVIDE.

(*El Siglo Medico*, March 9.)

Dr. Olavide, at a meeting of the Academy of Medicine of Madrid (December 12th), presented two patients, the subjects of elephantiasis Arabum, whom he had treated by tincture of iodine used both internally and externally. The first patient was a man whose parents had been similarly affected. When he came under Dr. Olavide's care, the circumference of his leg was 70 centimetres; when he was presented to the Society, it was scarcely 15. The treatment consisted in the external application of tincture of iodine by means of compresses, and the internal administration of the same remedy, commencing with doses of six drops, and gradually increasing the quantity till it reached a drachm. In a fortnight after commencing this treatment, the circumference of the leg had diminished by one-half. The desquamation which took place was aided by the inunction of glycerole of starch. Finally, compression from below upwards was employed. The patient, when the report was made, had been two months under treatment. The only symptoms remaining were vitiligo of the thigh and slight infarction of the dermis.

The second case was one in which the circumference of the leg was 68 centimetres. The same medicine was employed, also with a favourable result. The patient had a slight erysipelatous eruption on two occasions during the treatment, but this proved to be of little consequence.

ART. 76.—*On the Pathological Anatomy of Erysipelas.**

By M. RENAUT.

(*Gazette Hebdomadaire*, No. 42, 1873.)

The author describes two lesions accompanying erysipelas, the pathological anatomy of which has hitherto not been thoroughly made out; these are the vesications and the granulations of the skin. The vesications are formed by the elevation of the superficial layer of the epidermis and the subjacent layer of granular cells. In the vesication there is found between this elevated portion and the deep-seated layer a fibrinous exudation containing red and white blood corpuscles; the fibrinous material is abundant, and forms tracts disposed in a network of arches. The granulations which give to the skin the aspect of the surface of an orange, present characters resembling those of the small-pox pustule; these produce important changes in the serrated and prismatic cells of the Malpighian layer. The cells become vesicular and filled by a granular and fibrinous substance, the nuclei come in contact with the

* Communicated to the Société de Biologie.

cell-walls, and the cells are reduced to the condition of septa circumscribing a kind of cavernous tissue.

ART. 77.—*On Scrofulous Erysipelas.*

By M. J. COURBON.

(*Thèse de Paris*, 1873 ; *Annales de Dermatologie et de la Syphiligraphie*, No. 5, 1873.)

The materials of this monograph were derived from the practice of M. Horand, at the Hospice de l'Antiquaille, for darts and scrofulous children. In the wards of this institution where scrofulous affections are treated side by side with dermatoses of different kinds, one may be readily convinced that scrofula does really predispose to erysipelas and impresses on this eruptive affection certain distinguishing characters. Scrofulous erysipelas in fact differs from ordinary surgical erysipelas in its non-contagion, its mild course, and its absence of localization to the borders of wounds even when recent. Moreover, besides the spreading form which presents no special characters, M. Courbon describes an erysipelas à répétition, which consists in a series of erysipelatous eruptions, either fixed or spreading, succeeding one another after short intervals (from one to five days). This form is seldom met with except in scrofulous subjects. Nineteen very complete cases afford a good idea of these different varieties. Its most frequent seats are the face and pharynx—in one case it affected the meatus auditorius. Glandular swelling is always consecutive; the prognosis is favourable, even in cases where there is much delirium and where temporary albuminuria is noted. Finally, scrofulous erysipelas has no influence on the ulterior course of scrofula, and does not seem to modify sensibly any cutaneous lesions, around which the rash may have been observed.

ART. 78.—*On the Treatment of Erectile Tumours by Vaccination.*

(*Gazette Hebdomadaire.*)

The following discussion took place at the Société de Chirurgie, Paris, on October 1st, 1873:—

M. Blot stated that since he had been charged with the service of vaccinations by the Academy, several infants had been brought to him weekly, whom the parents or their medical men had wished to be vaccinated for the treatment of erectile tumours. To pretend to cure erectile tumours, or at least certain of these growths, is to commit an error. Blood is drawn and the vaccine does not take, or when the vaccine does take it causes but a small cicatrix and nothing more. One may thus cure erectile spots, but in cases of erectile tumour vaccination is insufficient, and may even produce serious hæmorrhage.

M. Tillaux stated that he had succeeded in curing veritable erectile

tumour as large as a nut by vaccination. He passes a fine needle, armed with a thread dipped in vaccine, across the long axis of the tumour, and then a second thread in a direction perpendicular to the first.

M. Sée having occasion to treat an erectile spot, had made a circle of vaccinal punctures on the healthy skin around the spot: a cure resulted.

M. Marjolin held that it was always right to attempt vaccination at first, whatever might be the seat, the extent, and the depth of the erectile tumour. A tumour of about two centimetres in diameter he treats by puncturing with 30 or 40 vaccine points, and he causes the skin to glide over the tumour before he makes his punctures. When circular vaccination of the healthy skin is performed, a kind of strangulation is produced around the disease. About ten years previously a little girl with a very large erectile tumour on the cheek was brought to M. Marjolin. He practised vaccination; erysipelas resulted, but finally the patient, who was three months old, recovered.

M. Després mentioned the case of a female infant who was born with an erectile tumour at the end of the little finger. At the end of six months, as the tumour was rapidly developing, M. Després made a simple vaccinal puncture on the most prominent part. The tumour then disappeared.

M. Chassaignac stated that he had published two cases of vaccination of erectile tumours. In one case the tumour was seated on the nose, in the other on the abdomen. The vaccine caused pustules, but the erectile tumours were not modified. The punctures were made near the periphery of each tumour. It was not the vaccine virus which effected a cure, but the consecutive inflammation. By attempting vaccination one lost time, and exposed the patient to erysipelas. M. Chassaignac agreed with M. Blot.

M. Blot thought that the opinion of M. Marjolin was too absolute. Superficial and small erectile spots might be cured by vaccination, but in the treatment of erectile tumours this treatment was not good, and it could not succeed in cases where the growth was large and thick. M. Tillaux no longer performed vaccination, but he applied setons; but the inflammation thus produced is not equal to that determined by caustics—a stylet at a red heat would give a better result. If but three or four out of fifteen punctures produced vaccinal pustules, it would be necessary to employ some other proceeding. Finally, M. Blot fears very much the occurrence of erysipelas in infants.

M. Marjolin stated that he applied vaccination in all cases, but he had not asserted that it always succeeded. The more or less considerable inflammation which accompanied vaccinal evolution might be turned to profit in the cure of erectile tumours; and if but half a success be obtained, there will then be a better chance of complete success from some other proceeding, or probably of a spontaneous cure.

M. Gueniot had often observed in young infants slight vascularization of the dermis near the eyelids and lips; most of these spots disappeared spontaneously in the course of the first six months. M. Marjolin did not class these among the erectile tumours.

M. Tarnier stated that he also had observed this vascular development,

which disappeared spontaneously, and had nothing in common with erectile tumours. He had seen in many infants who had presented no spot during the first few days of life, the subsequent development of an elevation resembling a red currant, which elevation increased very much in superficial extent, but was furnished with only small vessels. These spots generally disappeared spontaneously. Then, towards the middle of the spot, a whitish tissue of cicatricial appearance showed itself, and this gradually extended, and replaced the red structure. In these cases it was well to watch the infants during several months; if the spot increased in size instead of disappearing, one might then try vaccination.

ART. 79.—*On Prurigo.*

By TILBURY FOX, M.D.

(*Skin Diseases*, 2nd edition. London, 1873.)

In writing on the above subject, Dr. Fox says:—"This disease is essentially a chronic inflammation of the skin, which expresses itself in the first place by the development of peculiar papulæ, and subsequently general thickening of the skin, and, moreover, by intense pruritus at every stage of its course. It is a very uncommon disease in England, emphatically so in its severest form, which is seen pretty often in Vienna. I have been on the look-out for a case of the most marked form of disease, such as Hebra describes, for years past, and have only met with one case in England. In describing prurigo, it is most necessary to state what prurigo is not, for the reason that the word prurigo has been applied to several entirely distinct diseases in the loosest manner possible, and there is an abiding desire to rank under it diseases the most diverse *en masse*. I will therefore give in detail the characters of true prurigo, and then enter into particulars relative to the various diseases that have been and are likely to be confounded with it. The disease, I may say here, is not phtheiriasis (prurigo senilis of older authors). Prurigo occurs in two forms, a slighter and a severer form, to which the terms *mitis* and *ferox*, or *agria*, may be respectively applied. Prurigo *mitis* is characterized by the development of flesh-coloured papules, in an isolated and scattered form, of the size of a couple of pins' heads put together, or a little larger. These papular formations are attended by intense pruritis, which induces the patient to scratch and to excoriate the papules which then become covered at their apices by dried blood-scales. Sometimes the papules are very deeply excoriated. There are also papules to be felt rather than seen on the skin, and if the finger be passed over the affected part they feel shotty and hard. . . . The eruption, therefore, consists of certain papules, altered by scratching, and accompanied by intense itching, as primary and essential phenomena."

ART. 80.—*On a New Method of determining the presence of, and recovery from, true Ringworm.*

By DYCE DUCKWORTH, M.D.

British Medical Journal, August 31.)

The author called attention to the action of chloroform upon the infected hairs in cases of tinea tonsurans. It was shown that this agent caused the hairs to become white or slightly yellow in colour, and thus to be distinctly mapped out and easily distinguishable from surrounding healthy hairs. The causes of the change were briefly discussed, and the particular phases of the disorder suitable for this application were pointed out. The effect of chloroform on patches of favus, tinea versicolor, melasma, and alopecia areata was likewise discussed. It was shown that no other reagent, so far as was known, possessed the peculiar properties of chloroform in affecting parasitically-diseased hairs.

ART. 81.—*Cases of Ringworm treated by Oleate of Mercury.*

By LEONARD CANE, M.B. & B.S. Lond.

(The Lancet, August 16.)

The advantages which oleate of mercury seems to possess over other remedies are, in Mr. Cane's opinion :—

1. It is a certain remedy, if carefully applied.
2. It produces no staining or injury of the skin. In cases where the disease appears on the face, it is of great importance to avoid any disfigurement or staining.
3. It is painless in its application. This is not the case with the ordinary strong parasitocides, most of which produce vesication, &c.
4. It readily penetrates into the sebaceous glands, hair-follicles, and even into the hairs themselves, the mercury being in a state of solution in an oily medium, and it is therefore much more likely to destroy the fungus than the spirituous or aqueous solutions of mercury, &c. This penetrating power of the oleate may be increased by adding a small quantity of ether (one part to eight) to it.

In very sensitive skins the irritation sometimes produced by it may be avoided by using a weaker solution (five per cent.), and by applying it with a camel-hair brush. In slight cases this method is all that is necessary, but where the fungus has invaded the hair it is advisable to rub in the oleate gently.

ART. 82.—*On the Treatment of Impetigo.*

By GEORGE P. RUGG, M.D.

(British Medical Journal, July 5.)

In four cases of "impetigo contagiosa," treated by Dr. Rugg, the most effectual application he found to be the new disinfectant, "chlorozone," which consists of fixed chlorine in an alkaline permanganate solution.

SECT. III.—FORENSIC MEDICINE.

ART. 83.—*Experiments with Snake Poison; Potassa as an Antidote.*

By JOHN SHORTT, M.D.

(Medical Times and Gazette, August 23.)

In a letter from Madras in the *Medical Times and Gazette*, August 23rd, 1873, Dr. Druitt relates some experiments he witnessed made by Dr. John Shortt with snake poisons. Dr. Druitt states, "We next witnessed a set of experiments to show the effects of liquor potassæ on the snake poison and on the animals poisoned with it. For this purpose a solution was made of four grains of dried cobra poison in half an ounce of distilled water. The dried poison had not lost an atom of its virulence (as we afterwards saw) although it was taken in August, 1870. The solution was slightly opalescent. On adding liquor potassæ to a still further diluted quantity, some striking chemical change evidently took place, for it speedily became of a bluish-black colour—at first slight; afterwards intense, like newly prepared ink.

"Having satisfied us of the reaction between the potassa and the poison, experiments were made on animals. Two dogs injected with the solution of cobra poison into the cellular tissue of the parietes of the chest died in one hour and thirty-five minutes, and in two hours and forty-seven minutes respectively; whilst one dog that was injected first with cobra poison, and with diluted liquor potassæ afterwards, survived for four hours and fifty-seven minutes; and a rabbit that was injected with the dark mixture of cobra poison and liquor potassæ was quite unaffected by the operation. . . . The reader will see at once that in the effects of the liquor potassæ Dr. Shortt seems to point, if not to an antidote, yet to something like one."

A case is related from the *Madras Monthly Journal of Medical Sciences*, in which the potash treatment proved successful. This is the third successful case under this treatment. Dr. Shortt states: "Long before I had the opportunity of testing the action of the liquor potassæ on the human subject, I ascertained the property it possessed of neutralizing snake poison, and the difficulty I experienced was to introduce some means to expedite its action in the living blood. After repeated trials and experiments, I found that brandy as a diffusible stimulant roused the nervous system, excited the circulation, and thus carried the potash into it as rapidly as possible, and enabled it to overtake and neutralize the poison in the blood. The secret of success, then, consists in bringing the patient's system rapidly under the influence of the brandy—or in other words, to make the patient *drunk* as speedily as possible, and maintain this effect for some time after. During the first forty-five hours of the patient's stay in hospital he took seventy-two ounces of brandy and four ounces and a half of the liquor potassæ by the mouth, fourteen ounces of brandy and three ounces and a half of the liquor potassæ by means of enemata through the rectum,

and four ounces of the liquor potassæ was used in the bath he had. In all eighty-six ounces of brandy, and eleven ounces of the liquor potassæ were used in this case!"

ART. 84.—*Treatment of Snake-bite by Artificial Respiration.*

By VINCENT RICHARDS.

(*Indian Medical Gazette*, May 1.)

Mr. Richards records a series of eight experiments instituted on dogs, to test the value of artificial respiration, as suggested by Dr. Fayrer, in cases of snake-poisoning, and he thinks the results, though not absolutely successful, are very encouraging. In one case the heart's action was maintained for ten hours, and then ceased only on the discontinuance of the artificial respiration; and in another, the heart was kept beating for twenty-four hours and thirty-five minutes, sensibility being restored after it had been completely lost.

The following is his explanation of the physiological action of snake-poison. "When snake-poison is injected into the areolar tissue, as is usual in the case of a bite, absorption gradually takes place. When the poison reaches the lungs, it appears to excite the pneumogastric nerve, and through the medulla and spine the phrenic and intercostal nerves, principally leading at first to an accelerated action of the respiratory muscles, and afterwards, as a larger quantity of poison becomes circulated through the lungs, and the stimulus to the nerve-centres is augmented, to paralysis of them. Vomiting, which is a frequent, though not constant, symptom, probably arises from this irritation of the pneumogastric nerves. The medulla oblongata and spine are, indeed, primarily affected, and it is only as a secondary effect that the cerebral ganglia and cerebrum are involved. Presuming this to be the physiological action of the poison, it follows that a person fatally bitten dies from asphyxia produced by paralysis of the motor and respiratory nerves. The indication of cure, provided the effect of the poison on the nerve-centres is not permanent, is therefore artificial respiration. Moreover, if elimination of the absorbed poison can go on, as appears to be the case, we have good reason to hope for favourable results. When, however, the amount of poison injected is overwhelming, little, I think, can be hoped for from the treatment. That an animal may be affected even to convulsions, and yet ultimately recover without treatment, I have already shown (Fayrer's *Thanatophidia of India*, p. 127), and I certainly think that when the quantity of poison injected into the areolar tissue would, under ordinary circumstances, be just sufficient to kill, artificial respiration, if properly maintained might save life, as it does in the case of curara poisoning.

"I believe it was this latter fact which first led Dr. Fayrer to make a trial of artificial respiration in snake-poisoning, and the subsequent encouraging results which he obtained induced him to suggest its adoption in such cases."

ART. 85.—*Instructions for determining the Constituent Elements of Blood in Stains.*

(*Annales d'Hygiène Publique*, Juillet, 1873.)

The following conclusions are given in a report to the Société de Médecine Légale, by a commission composed of MM. Mialhe, Mayet, Lefort, and Cornil:—

1. The first duty of the expert is to preserve intact the red corpuscles of the blood, elements which are characteristic and may be readily destroyed. For this reason we have enumerated the destructive fluids, so that care may be taken not to bring any of them in contact with the blood-stain. For the same reason we have indicated the preservative fluids of which use may be made.

The destructive fluids are: acetic, gallic, hydrochloric, and sulphuric acids, the alkalies, potash, soda even in weak solutions, ether, chloroform, the biliary acids, &c., in short, nearly all reagents.

The preservative fluids are: alcohol; chromic acid, picric acid, an aqueous solution of bichromate of potash.

2. Should the expert first consulted not be sufficiently competent, and should he, for example, be inexperienced in the management of the microscope, he should endeavour to collect the blood-fluid or the desiccated stains, so that the specimens may be transferred to a specialist.

3. The blood, if it exist in a fluid condition, should then be placed between two glass slips well sealed, in order to prevent evaporation, or, and this is preferable, should be introduced into a tube similar to those used for holding vaccine lymph, which tube should then be closed by the heat of a lamp.

The fluid or clotted blood might also be placed in an experiment tube, a weak solution of chloride of sodium being added to prevent desiccation. The saline fluids employed in such instances are preferable to albuminous fluids because they are not subject to putrefaction.

4. In the specimens thus preserved, the expert determines in the first place by means of the microscope, the presence of red globules in the fresh blood or blood-stain. He will succeed in this without difficulty, provided the stains be not too old. He will then measure the globules, and so determine whether or not the specimen is one of human blood.

5. If the stain be so old and altered that the red globules can no longer be *recognised*, the expert will seek for fibrin and white globules.

6. If microscopical examination permits the recognition of both red and white globules and of fibrin, it is useless to push the analysis further, as the results of the investigation are as complete as possible.

7. If the globules can no longer be recognised on account of their fragmentation, it will be necessary, even when white globules and fibrin are to be observed, to analyse the colouring matter of the blood.

8. Spectroscopy and the formation of crystals of hydrochlorate of hæmatin supply two equally sure means of affirming the presence of the colouring matter of blood. Crystals of hydrochlorate of hæmatin soon appear after a certain treatment of a very minute fragment of desiccated

blood. We recommend, therefore, this proceeding, which permits one to dispense with spectral analysis.

Crystals of hydrochlorate of hæmatin are obtainable by the following method : a small fragment of dried blood is placed on a glass slide, it is then dissolved in water, to which is afterwards added a small fragment of marine salt. The fluid is then covered by a thin transparent cover, a small quantity of acetic acid having been placed between the glass slide and this cover. By means of a spirit lamp this fluid is heated to ebullition. More acetic acid is afterwards added, and the experiment is repeated until crystals are obtained. These crystals, which are minute when one has to deal with a very small quantity of blood, are rhomboidal and of a dirty-brown colour. They are quite characteristic, and the reaction by virtue of which they make their appearance is so sure that one may from their existence assert that of blood.

9. The chemical reaction recommended by Dr. Taylor is especially useful from the fact that when it does not take place, one may decide that the stain does not contain blood.

10. In order to obtain a satisfactory result from the series of researches necessary in difficult cases, the expert ought at first to divide his specimen into four parts, reserving the first for histological and the second for spectral analysis, the third for a search after crystals of hydrochlorate of hæmatin, and the fourth for the chemical proceeding recommended by Dr. Taylor.

ART. 86.—*On Herb Poisoning at the Cape of Good Hope.*

By GEORGE GREY, M.D.

(*British Medical Journal*, August 31.)

In his capacity as district surgeon of the district of Cradock, Cape of Good Hope, Dr. Grey had seen, during the last eight years, eleven cases of reported poisoning. In several of these cases, whole families had been affected; and generally, in each family, one or more deaths had occurred, from poison administered by the natives. In many of the cases, he found that strychnia, or the seeds of *nux vomica*, had been resorted to; in other instances, the tubers of certain iridaceous plants had, as far as could be ascertained, been used. Strychnia was commonly kept at the scattered farm-houses in the district, for the destruction of troublesome carnivora, and was, therefore, easy of access. Dr. Grey gave an account of some cases which had fallen under his notice, and described the effects of various poisonous plants indigenous to South Africa, and which may, apparently, be used for criminal purposes.

ART. 87.—*On Atropia-Poisoning and Delirium Tremens.*

By ANGUS MACDONALD, M.D.

(*British Medical Journal*, July 26.)

At a meeting of the Medical Chirurgical Society of Edinburgh, June 18th, Dr. Angus Macdonald read an account of a case of atropia-

poisoning coincident with delirium tremens. The patient, a young gentleman, was said to have taken a fit. He was found unconscious, with fully dilated pupils, which did not respond at all to light. There was no paralysis. The delirium seemed alcoholic in character. The tongue was not bitten, and though the patient was not restless, there had been no real fit. Cold was applied to the head, and croton oil given. Dr. Sanders saw the patient, recognised the alcoholic element, and suggested the possibility of belladonna poisoning, but feared meningeal mischief. It was found that the patient had been ordered one ounce of the liquor atropiæ sulphatis, to be used for a conjunctivitis, three months before. Consciousness gradually returned, but with it symptoms of delirium tremens, from which in a few days he made a good recovery. The case is worthy of notice from the rarity of such a coincidence, and also as giving information as to the minimum fatal dose of atropia, which has been apparently much exaggerated. Taylor records a case in which two grains proved fatal, but some authorities speak of one-fortieth or one-twentieth of a grain as being a dangerous dose.

Dr. T. R. Fraser said that, while very small doses, such as one-fiftieth to one-twentieth of a grain, really did produce alarming symptoms, it was known that much larger quantities were not lethal; and from his experiments on animals, he believed that a comparatively large dose could be borne.

Dr. Argyll Robertson alluded to the symptoms often seen after the use of eye-water too frequently in young children. He did not know of any fatal case. He believed they acted, not by being absorbed by the conjunctiva, but by passing into the mouth either through puncta, or by the angle of the mouth itself.

ART. 88.—*Case of Strychnine Poisoning successfully treated by Atropine.*

By SAMUEL BUCKLEY, F.R.C.S. Eng., Visiting Medical Officer to the Prestwich Workhouse, &c.

(*Edinburgh Medical Journal*, September.)

Mr. Buckley relates the history of a case of a young woman who purchased a packet of "Hunter's infallible vermin and insect destroyer," for the purpose of suicide. About four o'clock in the afternoon she took a pinch from the packet between her finger and thumb, placed it on her tongue, shut her mouth, and immediately got into an omnibus coming to Manchester. A sensation of dizziness and faintness soon came over her, quickly succeeded by a feeling of choking and dyspnoea, subsequently to which she lost all recollection of what occurred.

The omnibus arrived in Manchester at 4.25 P.M., from which she was removed by the police to the infirmary, the officer stating that he found her lying on the seat "as stiff as a board." When brought to the accident-room at 4.30 she was in a state of perfect opisthotonos, the spasms were severe and painful, and the intervals of exceedingly short duration. The stomach-pump was at once used by Mr. Boutflower, the house-surgeon, the stomach being emptied and well washed with water,

after which she was put to bed between warm blankets, and a hot bottle was applied to the feet. Chloroform was administered to relieve the pain of the spasms, and at the suggestion of Dr. Eason Wilkinson atropine was injected subcutaneously, as an antidote to the effects produced by the poison. The liquor atropiæ (B.P.) was used, of which twenty minims ($\frac{1}{6}$ th of a grain) were injected three times at intervals of ten minutes. Under this treatment a semi-comatose condition supervened, and after each injection the spasms were observed to become milder in character. At this period the heart's action was impetuous and irregular, the pulse extending over a large area; no bruit was heard; the pulse was 130, and fluttering in character. Respiration was hurried and slightly stertorous. The pupils were widely dilated; the eyes had a peculiar fixed and bright appearance; the face was flushed, and during the earlier paroxysms the risus sardonius was well marked, but had now disappeared, the features being natural but immovably fixed. The patient appearing to be well under the influence of the atropine, it was given more cautiously and at longer intervals in doses of $\frac{1}{12}$ gr. The spasms, however, increased in severity whenever the injections were long omitted. Chloroform was also discontinued during the intervals, which now lasted about twenty minutes, and given only during the attacks, which had become much lessened in intensity, the opisthotonos having entirely disappeared. The last severe spasm was at 8.30, after which there appeared to be more co-ordination in the muscular movements. Slight spasms, however, came on if the patient was touched or moved in the least, and a rather severe one was induced about 9.30 by the nurse changing the hot-water bottle. At 12.30 A.M. she began to show signs of returning consciousness. The pulse was 90, full and regular; respirations easy, and 22 per minute. She was with difficulty roused, and answered questions loudly spoken in a vague and muttering manner. After a time she swallowed a cupful of hot strong coffee, deglutition appearing painful. She fell asleep at 1.30, and shortly after was left to the care of the nurse. At 9 A.M. she suffered no inconvenience, beyond a feeling of uneasiness about the throat. The day following she complained of stiffness and pains in the joints. The urine was loaded with lithates for three days, and then became clear. She left the hospital, completely recovered from the effects of the poison, on the ninth day after admission, being detained a few days in consequence of a burn on the foot, arising from contact with the hot bottle, which, by the way, produced no irritation at the time to attract observation.

ART. 89.—*Case of Poisoning by Homœopathic "Concentrated Solution of Camphor."**

By GEORGE JOHNSON, M.D., F.R.C.P.

(*The Lancet*, November 22.)

Dr. George Johnson related some cases of this kind:—

CASE 1.—Miss F——, aged twenty, having a cold and sore throat,

* Read at a Meeting of the Clinical Society of London, November 14.

took in water twenty-five drops of "Epps's concentrated solution of camphor." She went to bed, and in a short time was found foaming at the mouth, black in the face, and violently convulsed. Mr. Drake, of Brixton, was sent for in great haste. For several hours she was unconscious. She vomited blood-tinged fluid smelling strongly of camphor, and had severe gastric pain. For several days she was partially paralysed, and six months afterwards she was still suffering from symptoms of nervous derangement. The preparation which caused these serious results is a saturated solution of camphor in alcohol, the proportion being an ounce of camphor to an ounce and a quarter of spirit. It is therefore stronger than the spirit of camphor of the British Pharmacopœia in the proportion of 7·2 to 1.

CASE 2.—The Rev. W. R.— was advised to take for a cold three drops of the same preparation every five minutes for an hour. After taking the eighth dose he was seized with intense headache, which confined him to bed for forty-eight hours, and he was afterwards so weak and ill that he was unable to enter his pulpit for two months.

CASE 3.—Another case was communicated to Dr. Johnson by Mr. Delamark Freeman. A young lady, aged nineteen, took for diarrhœa a teaspoonful of the same preparation, which rendered her comatose for several days, and caused a variety of nervous symptoms, which did not pass away for several days. Dr. Johnson remarked upon the notorious fact that many of the disciples of Hahnemann have passed from the irrational and ludicrous extreme of infinitesimal dilutions to the dangerous extreme of the greatest possible concentration of active and poisonous drugs. There is an obvious risk that this concentrated solution of camphor may be mistaken for the much weaker solution of the British Pharmacopœia—a mistake which, in spite of the printed directions on the bottle, was probably made by both the young ladies who suffered so seriously for their error.

ART. 90.—*Poisoning by the Fumes of Charcoal.**

By J. HAWTREY BENSON, M.D.

(*British Medical Journal*, July 5.)

Dr. J. HawtreY Benson read a narrative of two cases of poisoning by carbonic oxide, occurring in University students, aged eighteen. The lads had incautiously left in their sleeping apartment, the chimney of which was stopped up, a charcoal brazier on a cold night last March. Next morning they were both found insensible. On being summoned, Dr. Benson found one lad already aroused, but still heavy and confused, with a small and feeble pulse (104 in the minute), respirations 20, temperature 99°. Slight vomiting followed, which seemed to relieve him, and after remaining in bed all day, he was nearly well, though weak, next morning. The second lad was deeply comatose, with face livid and bloated, respiration laboured and stertorous, eyes congested, pupils alternately dilated and contracted, teeth clenched, slight frothing at the mouth, limbs

* Read at a Meeting of the Medical Society of the College of Physicians of Ireland, April 9.

somewhat rigid, pulse 140, but regular and fairly strong; temperature 103° , respiration 36, an evidently sluggish peripheral circulation, visible jugular pulsation, and universal dry *râles* over the posterior aspect of the chest. Free ventilation of the apartment was at once secured, and a current from Gaiffe's induction-apparatus was passed between the phrenic nerve and the diaphragm during inspiration. At the suggestion of his colleague Dr. Purser, Dr. Benson used cold affusion (temperature of water 60°). At 1 P.M., the pulse was 132, respiration 36, temperature $102^{\circ}6$; the patient sweating profusely. At 3.30 P.M., Dr. Hudson visited in consultation, and, looking to the evident distension of the right heart, recommended cupping under both clavicles. Three or four ounces of blood were removed with difficulty. At 9.30 P.M., pulse 120, respiration 24, temperature 102° . The patient was still deeply comatose. A pint of urine was removed by the catheter. Dr. Purser now examined the fundus of the eye with the ophthalmoscope, and found extreme venous congestion. In about thirty hours from the time of the accident, full consciousness returned; but there was profound muscular prostration, with pains in the calves of the legs and feet; and on the third day sordes covered the lips and teeth. Pyrexia persisted for six days, after which the temperature became subnormal for a day (97°). On the ninth day, the patient was able to sit up for the first time. Dr. Benson alluded to the persistence of the symptoms caused by the inhalation of carbonic oxide, while carbonic acid produced but comparatively transitory effects. Modern investigation, represented by Claude Bernard, had shown that this peculiarity in carbonic-oxide poisoning depended on the formation in the blood of a new and definite compound, called *carbonic oxide hæmoglobulin*, a substance possessing a separate spectrum, distinct from that of either the oxy- or the reduced hæmoglobulin, and also differing from these in its chemical properties.

Dr. Purser said that, in Dr. Benson's second case, the ophthalmoscope showed extreme congestion of the venous, and emptiness of the arterial, system of the fundus of the eye.

Dr. H. Kennedy mentioned two cases of poisoning by carbonic oxide which had come under his notice, and in which the symptoms closely resembled those detailed by Dr. Benson.

Dr. Quinlan alluded to the method adopted for resuscitating the dog experimented on in the Grotto del Cane, near Naples, by dipping the animal two or three times in a neighbouring pool.

The Chairman (Dr. Stokes) said that in this accident a fever was clearly produced, as a direct result of blood-poisoning.

Dr. Benson said that one of his patients suffered from a copious crop of boils, a few weeks after his recovery—a fact of much interest when taken in connexion with the question of blood-poisoning.

SECT. IV.—THERAPEUTICS.

ART. 91.—*Artificial Fibrin as a Dietetic Substance.*

By JOHN GOODMAN, M.D.

(British Medical Journal, May 17.)

Dr. John Goodman calls attention to his discovery of this new dietetic substance. So far as he has employed it, he says, "it promises fair to be invaluable in medical practice, especially in cases of feeble alimentation and deficient nutrition, and second to none in those cases where rejection of food forms a prominent feature, or where the appetite and digestive powers are reduced to a minimum. As fibrinous material it is of course highly nutritious, and eminently adapted to all cases where there is a deficiency of fibrin in the blood. It is, perhaps, unparalleled in its qualities of lightness and digestibility, and is, moreover, a great delicacy. In many urgent cases of rejection of food, &c., it not only remains where an egg otherwise cooked would not be tolerated, but its presence in the stomach has been found to create a feeling of want rather than of superfluity, and to promote rather than decrease the appetite for food.

"The production of this substance is within the reach of every sick room, and is effected with great facility. It is formed by exposing albuminous material to the operation or influence of cold water for a given period, and on account of its great plenteousness we employ the ordinary hen's egg for its production. When the shell is broken and removed, and its contents are immersed in cold water for twelve hours or so, they are found to undergo a chemico-molecular change, and to become solid and insoluble. This change is indicated by the assumption by the transparent white of the egg of an opaque and snowy white appearance, which far surpasses that of an ordinary boiled egg. The product, and the fluid in which it is immersed, must now be submitted to the action of heat to the boiling point, when the fibrin will be ready for use."

ART. 92.—*Carbolic Acid and Zymotic Disease.*

By JOHN DOUGALL, M.D., Medical Officer of Health for the Burgh of Kinning Park, Glasgow.

(The Lancet, August 30.)

"A breakfast-saucerful of pure crystallized carbolic acid liquefied by a minimum quantity of water was placed on a table close to a small iron stand six inches high. Both were covered with a glass bell-jar of one cubic foot capacity, its roof being one foot above the surface of the table and six inches above the top of the stand. Twelve hours after, the interior of the jar being then filled with concentrated carbolic vapour, the jar was raised vertically, and a slip of glass on which was placed a minim of vaccine lymph (reaction alkaline) laid on the stand; the jar

was at once replaced, and in the heart of this cubic foot of strong carbolic vapour the minim of lymph was buried for thirty-six hours. At the end of this time the lymph, now shrunk into an opalescent scab, was moistened with a little water and glycerine (mixture neutral) and sealed in capillary tubes. A few days after a child was vaccinated with the contents of the tubes, and a perfect vesicle resulted, from which I filled twelve tubes. The lymph from two of these tubes was mixed on a slip of glass with one minim of a 1-in-50 aqueous solution (1-50th of a grain) of carbolic acid (mixture neutral). In twelve hours the mixture, now dried into a film, was laid by. After ten days it was moistened with water, and a child successfully vaccinated with it. Ten tubes were filled from the vesicle, the lymph from which and from the previous vesicle was used for subsequent vaccinations, all of which were successful.

"The effects of other volatile media on lymph were also tried in the same way, except that the lymph was exposed to their action only twenty-four hours. The results obtained are strikingly conclusive, as seen in the following—

Summary of Results of Vaccination.

SUCCESSFUL.	Reaction of mixture of Lymph and Glycerine.
Carbolic acid (vapour)	Neutral
Carbolic acid and lymph	"
Chloroform	Alkaline
Camphor	"
Sulphuric ether	"
Iodine	Neutral
UNSUCCESSFUL.	
Chloride of lime	Acid
Sulphurous acid	"
Nitrous acid	"
Glacial acetic acid	"
Hydrochloric acid	"

"The above table shows that the mixture of lymph and glycerine of the successful vaccinations was either neutral or alkaline, while that of the unsuccessful was, without exception, acid. Hence it follows that strong acids, or a body causing acidity by chemical affinity—*e.g.*, chlorine—are destructive of the active properties of vaccine lymph, and therefore *à priori* of variolous matter and other zymotic poisons.

"But to return to carbolic acid. The lymph was exposed to its vapour for thirty-six hours, while the other portions of lymph were exposed to the other vapours only twenty-four hours. Furthermore, carbolic acid was, as stated, actually mechanically incorporated with lymph, and, moreover, lest the genuineness of the vesicles produced by the two kinds of carbolized lymph should be questioned, their lymphs were repeatedly vaccinated 'in and in' with unvarying success. These simple facts show that the present extensive use of carbolic acid as an anti-zymotic is a serious delusion. If a minim of vaccine matter is unaffected after being buried for thirty-six hours in the heart of a cubic foot of concentrated carbolic vapour, or after being mixed with the acid in the proportion of 1 in 50 for ten days, it is surely plain that the destructive

action of carbolic acid on variolous matter and other zymotic poisons must be *nil*, seeing that the conditions of the experiments are far more severe than are possible in practice. But premising that carbolic acid is relatively a fair antiseptic, it by no means follows that it is *pro tanto* anti-zymotic. We have no valid grounds to assume, as is constantly done, that because carbolic acid can prevent or arrest putrefaction, it can therefore annihilate zymotic poison. Antiseption means preservation, not destruction. As proven by the action of carbolic acid on vaccine lymph, it conserves both the physiological and physical properties of the antisepted body; at least it does not impair them. Thus the contagia which it is thought are destroyed are preserved. To get rid of zymotic poison, destructives, not preservatives, must be used. These, as pointed out, are chiefly the mineral acids."

ART. 93.—*Note on the Therapeutical Uses of Iodoform.*

By H. S. PURDON, M.D., L.R.C.P., Physician to the Belfast General Hospital and to the Hospital for Diseases of the Skin.

(*Dublin Journal of Medical Science*, June.)

During the last three years iodoform has been brought prominently under professional notice in France and United States. It possesses not only tonic and stimulant, but also alterative properties; the dose is from one to three grains, given in form of pill. Externally it may be applied as an ointment in the proportion of one drachm of iodoform to the ounce of lard, a few drops of rectified spirit being first added to dissolve the iodoform. This ointment will be found useful to relieve the pain of cancerous sores; fissures, especially of the rectum; ulcers; to allay excessive pruritus of the skin, as in prurigo and scabies. For a vaginal suppository iodoform has been recommended by Dr. E. Cutter, of Boston, U.S., in painful uterine diseases. When introduced into the rectum as a suppository it exercises upon the sphincters a local anæsthetic effect, so that defecation has been performed unconsciously. In hæmorrhoids and tenesmus it is useful. Moûtre's formula is:—Iodoform powdered gr. xx, cocoa butter ʒj, melt and mix into six suppositories. As a disinfectant its power has been asserted by Righini. Certainly the odour is powerful and permanent, and may be compared to that of saffron. For ulcers the iodoform ointment is serviceable, especially when they are painful and indolent. Moreover, Dr. Izard has experimented with iodoform in the treatment of venereal ulcers: such sores it heals and cicatrizes rapidly. According to the same author, if iodoform be sprinkled upon a soft chancre it heals quickly and without pain. Moreover, it arrests the progress of phagedæna. M. Demarquay thinks highly of this remedy, whilst Dr. Stiles recommends it as an addition to the ordinary plasters and ointments for syphilitic periostitis. Dr. Gamberini (*Lancet*, April 12th, 1873), at the hospital of Saint Opsola, Bologna, treats all cases of soft chancres with iodoform, two drachms and a half to an ounce of glycerine. This remedy he has found highly successful. For burns, scalds, and painful boils the application of an ointment con-

taining thirty to forty grains to the ounce is recommended as a good anæsthetic. Internally, Dr. Purdon has found a grain of iodoform with two grains of reduced iron, given in form of pill twice or thrice daily, a most excellent remedy for neuralgic and chronic rheumatic affections. In scrofulous complaints, such as glandular enlargements, it may be prescribed both locally and constitutionally, and its benefit will not be considered surprising when we remember that iodoform contains ninety per cent. of iodine.

The following are some of the diseases in which Dr. Purdon has given iodoform a trial, and that an extensive one. At the Belfast General Hospital he has ordered it in several cases of phthisis in the following way:—Iodoform sixteen grains, essence of aniseed one drachm, cod-liver oil eight ounces, mix; dose, a tablespoonful twice daily one hour after food. Also in neuralgia given with iron, in chronic rheumatism, chlorosis, anæmia, and as a suppository in the vagina in cystitis in the female. At the Belfast Hospital for Diseases of the Skin iodoform has been prescribed locally in prurigo, in pruritis ani, in cancerous ulceration, and painful ulcers of limbs. In phthisis the remedy in second stage of the disease checks the night sweats, and relieves the hacking cough. Moreover, the cod-liver oil agrees better with the stomach when thus combined. In neuralgia it is often curative when other remedies have failed. It acts better when combined with reduced iron.

ART. 94.—*On Iodoform as a Topical Application to Venereal Ulcers.*

By JOHN ASHHURST, Jun., M.D.

(*American Journal of the Medical Sciences*, July.)

At a meeting of the College of Physicians of Philadelphia, March 19th, Dr. John Ashhurst, jun., mentioned that he had been using iodoform lately in a number of cases of chancroidal and of syphilitic disease with very gratifying results. The preparations employed, besides the drug in powder, were those recommended by Dr. Izard and by Dr. Damon, of Boston, viz., an ointment (℞. Iodoformi, ℥iiss; adipis, ʒj), and a solution in glycerine and alcohol (℞. Iodoformi, ℥iiss; glycerinæ, tʒvj; alcohol, fʒij). The latter was preferred so long as the discharge from a venereal sore was profuse, the powdered drug being applied to the ulcers in their later stages, while the ointment was reserved for cases of unopened chancroidal bubo, and of unulcerated gummatous tumour. In the treatment of chancroids, Dr. Ashhurst had continued to make at the beginning one thorough cauterization with nitric acid, and in the treatment of syphilitic ulcers had of course not neglected to direct suitable constitutional treatment at the same time that he had employed iodoform as a topical remedy. From the results which he had obtained he was disposed to think that iodoform would prove a valuable addition to the surgeon's repertory in the treatment of all varieties of venereal ulcers. He did not think that iodoform, at least in its external applications, possessed

any anti-syphilitic virtues ; he regarded its action as entirely of a local character.

Dr. W. S. W. Ruschenberger stated that he had employed iodoform for the past three years, both internally and externally, with the most satisfactory results. He had used it in phagedænic ulcerations, and also in carbuncle. When applied in substance he thought it should be in a state of very fine powder, otherwise it would in some cases provoke irritation. The ointment (iodoformi, ʒj; ol. theobromæ, ʒss) was a favourite preparation with him.

Dr. Edward Hartshorne inquired whether Dr. Ashhurst had observed, in the cases treated by him, any symptoms of iodism. Iodoform contains so much iodine (about nine-tenths) that it might be apt, when employed as freely as stated, to produce the constitutional effects which are sometimes noted in the use of iodine and of iodide of potassium.

Dr. Ashhurst said in reply that he had not observed constitutional effects in the cases under his care ; he added that he was somewhat sceptical on the subject of the absorption of medicines from suppurating surfaces, and mentioned that he was in the habit of dressing amputation wounds with pure laudanum, using it in large quantities and for a number of days consecutively, without the occurrence of any symptoms indicating constitutional implication ; he doubted whether, under such circumstances, any appreciable amount of the drug was absorbed.

Dr. Ruschenberger stated that he had administered iodoform internally in one-grain doses, and had not observed symptoms of iodism in any instance.

Dr. J. S. Parry had employed iodoform internally in cases of inherited syphilis in children from three to twelve years of age, continuing its administration from one month to six weeks—in one case he administered the remedy for six months. In these cases he failed to observe any good results follow its use. In one case of nervous palpitation of the heart the patient was materially benefited by one-grain doses three times daily ; symptoms of iodism did not occur in any case.

ART. 95.—*On Carbonate of Ammonia and Uræmia.*

By PROFESSOR ROSENSTEIN.

(*Virchow's Archiv*, lvi. 3 ; *Schmidt's Jahrbücher*, No. 5, 1873.)

Carbonate of ammonia, when introduced into blood, is capable of producing a complex set of symptoms which perfectly resemble those of epilepsy, and likewise the group of symptoms which is observed in a class of cases of uræmia. The convulsions excited by carbonate of ammonia are undoubtedly of cerebral nature, and cannot be produced after separation of the brain from the spinal cord. It is that probable they are the effect of a direct action of the poison on the nerve substance of the cerebral motor centre ; at least it is certain that they are not reflex actions set up through the cervical sympathetic or the vagi nerves. If a frog—in which creature one-fortieth of a gramme of carbonate of ammonia suffices not only to produce, as in rabbits and dogs,

the characteristic phenomena, but also to act fatally—the spinal cord be divided close behind the ears, previously to an injection, no convulsions will take place. On division of the middle portion of the dorsal cord, one will observe most vehement tetanus of the anterior limbs, whilst the posterior limbs remain at rest. If a ligature be placed around the heart, the convulsions will almost immediately come on in full force. The death of the creature results from arrest of the respiration, which previously was very irregular; the heart continues to beat for some time after the failure of respiration. In rabbits from four-fifths of a gramme to one gramme and a fifth, according to the weight of the animal, and in dogs from four to five grammes of carbonate of ammonia, injected into the blood, are necessary quantities for producing epileptiform phenomena; these doses, however, are not sufficient to cause death. With dogs, in addition to excessive salivation, vomiting often occurs immediately after the injection. Previous narcosis through morphia, chloroform, hydrate of chloral, exercises no influence on the character of the convulsions; the smooth muscular fibres remain unaffected by spasm. In pregnant animals, neither does abortion take place, nor is the life of the foetus put in danger. All the symptoms of poisoning by carbonate of ammonia are of a transient nature so long as the kidneys, which form the chief eliminatory organs for the poison, remain intact. Elimination of the poison takes place but to a slight extent by the pulmonary mucous membrane.

In the afternoon of February 21st a medium-sized rabbit was deprived of both its kidneys. On February 23rd, at ten in the morning, half a gramme of carbonate of ammonia was injected: this proceeding was followed by severe tetanic convulsions and loss of consciousness, and the respiration increased gradually in frequency. At twenty minutes there was complete unconsciousness, but no general convulsions were observed; only in the right anterior extremity was there any twitching. At three in the afternoon the animal died. Kuhne's test was applied to the blood, but no carbonate of ammonia could be found. No traces of carbonate of ammonia could be found in the breath before death.

By this experiment it was proved that symptoms of poisoning may be presented without any excretion of carbonate of ammonia, either from the lungs or from the kidneys. Whether in this case vicarious elimination took place from the skin, or the carbonate was converted in the blood into nitrate of ammonia, remains undecided. In some few cases paraplegia of the lower extremities, which is of central origin, is associated with the symptoms of ammoniacal poisoning.

The main distinction between the working of carbonate of ammonia and that of the agent which causes uræmia consists in this: the former gives rise to one and the same collection of symptoms, those, namely, of epilepsy; whilst the latter produces epilepsy and coma, convulsions and delirium. But even in those cases in which the uræmic symptoms resemble those of poisoning by carbonate of ammonia, and at the same time present the epileptic form, and should even carbonate of ammonia be found in the blood, an association of the two cannot be concluded, since similar symptoms, as has been learnt from careful investigation, have been observed in man without ammonia having been found in the

blood; and since, with researches on animals, no correspondence exists between the intensity of the uræmic phenomena and the quantity of ammonia found in the blood. With the eclampsia of pregnant women, the fact should be especially borne in mind that the narcotics, the use of which has undoubted good results in man, in nowise hinder the production of cerebral convulsions in ammoniacal poisoning.

In conclusion, the author points out that the nervous symptoms which are so often manifested towards the end of chronic affections of the bladder and prostate, and which have been included under the name of ammoniæmia, have nothing in common with the results of poisoning by carbonate of ammonia. This name is the result of so erroneously theoretical ideas that it had better be given up. The epileptiform attacks, which constitute the one constant result of ammoniacal poisoning, are entirely absent in cases of this so-called ammoniæmia.

ART. 96.—*On Chloral Hydrate.*

By CHARLES KIDD, M.D., M.R.C.S.

(*The Student's Journal and Hospital Gazette*, August 30.)

In a paper on the above subject Dr. Kidd points out that much depends on the mode of prescribing this drug. Chloral in enema acts well, where its ordinary administration by the mouth often causes only gastric disturbance, and not sleep: the latter disturbance, however, is now removed very often by the addition of bicarbonate of soda to the chloral: the hypnotic action then is at once developed. Chloral is a very risky medicine for suckling women, as it narcotizes the infant very deeply; but its usefulness in general midwifery, as the author stated some years ago, is now generally admitted. Chloral is not advisable in acute pneumonia, though it is in fever or mania.

With reference to the injudicious use or alleged over-dosing of chloral hydrate, it is rather common subject of admission that such doses as 30 grains at a time have been given two or three times a day. No doubt its value in the sleeplessness of old people, in delirium, or acute mania, or clonus, or puerperal convulsions is very great, if not abused, as it is to be feared in the first-named class of affections it may be. Like ether, perhaps, chloral is free from the violent excitement stage of anæsthesia witnessed under chloroform. As an antidote to overdose of chloral, musk has been tried with good results, as also strychnine, and injection of ammonia to quicken the respiration. Patients while taking chloral require anxious watching, as at any moment dangerous symptoms may set in; its dose, too, sometimes, as already said, is subject to uncertainty in action, even according as the syrup is prescribed or the crystals, as the latter soon spoil in the dispensing bottles. The earlier dangerous symptoms are great coldness of the skin, with signs of cerebral congestion; intense muscular relaxation, &c.; the same nearly as in death from ether inhalation. Advantage has been taken of this muscular relaxation, however, in tetanus cases.

After the ordinary prescription of draught of orange-water and syrup

with a few drops of chloroform, the best mode or manner of prescribing chloral hydrate is in double doses in this form of enema; a fact of great importance in such diseases as puerperal convulsions, mania, tetanus, &c., the vehicle, or mixture, altering very much too, as it is alkaline or acidulous. Many of the earlier errors arose from not realizing these conditions, or the well-known alteration in the crystals when too long kept as crystals.

In tetanus chloral hydrate has now saved 17 out of 20 consecutive cases of that disease; 40 grains is the dose at night, and 30 at mid-day, avoiding *small* doses. The patient in lock-jaw is made to swallow also milk and eggs abundantly, and if the pulse grow weak, brandy and beef-tea; if the patient can be got over the tenth day with chloral, even in enema a very favourable prognosis may be formed. This line of treatment agrees with similar good results obtained by administration of chloroform by inhalation where it has been carried out with skill, but the agitation of the patient under chloroform is avoided by the calm continuous sleep under the chloral hydrate—the great and most important element, Dr. Kidd thinks, in tetanus cases.

ART. 97.—*On the Constitution and Action of Croton-Chloral-Hydrate.**

By OSCAR LIEBREICH, M.D., Berlin.

(*British Medical Journal*, August 31.)

Dr. Liebreich gave an account of the action of this substance, comparing it with chloral hydrate, and pointing out some of the conditions indicating its use. Its action differed from that of chloral hydrate in that, while it produced sleep, it did not affect muscular tone or interfere with circulation or respiration. Its use was indicated where chloral hydrate was inapplicable on account of heart disease; and in cases of neuralgia affecting the trigeminal nerve. Where large doses of chloral were necessary to procure sleep, Dr. Liebreich recommended the addition of some croton-chloral.

ART. 98.—*On the Employment of Gelatine Suppositories in the Treatment of Fæcal Accumulations in the Rectum.*

By Dr. NAGEL.

(*Allgemeine Wiener Medizinische Zeitung*, 1873; *Gazette Hebdomadaire*, No. 22, 1873.)

Obstinate constipation produces in certain cases an accumulation within the rectum or sigmoid flexure of extremely hard matter, the so-called scybalæ. This is a condition which it is usually difficult to treat, and which frequently necessitates the unpleasant employment of the

* Read at the Forty-first Annual Meeting of the British Medical Association.

anal curette; the employment of injections and of very energetic purgatives is often accompanied by very acute pain, and sometimes results in only an incomplete evacuation.

M. Nagel asserts that he has discovered a very simple plan of treatment, and one which may be tried in all cases without any distrust. He uses suppositories of gelatine, which, according to the results of his observation, produce excellent effects in cases where hard masses have accumulated in the rectum or sigmoid flexure. To this condition Dr. Nagel gives the name of coprostasis.

The suppositories are made with brown gelatine; these are kept in water for twelve hours, and then, when they are swollen and soft, are introduced into the rectum. In the course of twenty-four hours, an evacuation of pultaceous matter will be obtained. The author attributes the mode of action of these suppositories to the hygrometric properties of the gelatine. This explanation seems to be a rational one, but count should also be taken of the action of the suppository on the mucous membrane of the rectum, and on the secretion of the intestinal juices.

ART. 99.—*Hydrocyanic Acid as a Remedial Agent in Delirium Tremens.*

By HENRY B. DOW, M.D.

(*British Medical Journal*, May 31, 1873.)

Dr. Dow expresses his belief that hydrocyanic acid fulfils all the indications in delirium tremens better than opium, digitalis, or belladonna. It allays the irritation of the stomach, and checks the nausea and vomiting; it quiets the nervous excitement, and, by so doing, tends to produce sleep; and it also controls the action of the heart. It has the advantage of producing its effects quickly, and of not being cumulative, and is taken readily by most people. He has used it with the most satisfactory results, and he now mentions his usual method of administration. He gives it in combination with bicarbonate of potash, chloric ether, and camphor mixture, in doses of one, two, or three minims of the Pharmacopœia solution every two, three, or four hours, according to the severity of the case; and also find that benefit may sometimes be derived from the addition either of three or four grains of carbonate of ammonia, or a few minims of the compound spirit of ammonia. The patient is to be nourished by the administration of beef-tea, milk, &c., and wine or other alcoholic stimulants to be given, according to the discretion of the medical adviser; the less, however, the better. As soon as the worst symptoms have been relieved by the above treatment, the appetite is soon restored by the use of dilute nitric acid and decoction of cinchona.

ART. 100.—*Liquor Ferri Subsulphatis in Diphtheria and other Affections of the Mucous Membrane.*

By V. J. FOURGEAUD, M.D.

(*The Western Lancet*, May.)

For several years past (since 1868) Dr. Fourgeaud has relied principally on the liquor ferri subsulphatis, both for local application and internal administration, considering it the most valuable remedy we possess for that class of diseases characterized by exudations, vegetations, false membranes and abnormal formations and growths of a humid and superficial nature on the mucous membranes.

He applies the undiluted solution to the affected parts by means of a camel-hair brush, or, better, of a piece of sponge, smaller than is generally used for throat probangs, attached to a suitable holder. The sponge should be well moistened with the solution, but should be pressed a little before using, to free it from an excess of fluid. In applying the medicated sponge, it should be gently rubbed on the affected parts. The peculiar action of the solution on the exudations or false membranes will cause them to break up more or less completely, according to their different degrees of adhesiveness to the mucous membranes, as shown by the pieces adhering to the sponge, and, also, by their presence in the immediate expectoration. After each application (the author makes from two to four in the twenty-four hours, according to the exigency of the case) a mouth-full of water, as a gargle or swallowed, will relieve a certain degree of constriction which follows the use of the astringent. Far from complaining of pain, the patients experience decided relief after the use of the lotion. This application may be employed much more freely, and with less danger, than violent caustics, such as muriatic acid, nitrate of silver, &c., commonly resorted to. Dr. Fourgeaud knows of no other which will break down so effectually all exudations, vegetations, pultaceous concretions, as well as the characteristic false membranes of diphtheria, whether they are situated in the mouth, pharynx, or in the vagina, neck of the womb, or any other accessible parts of the mucous membrane. He has used it with gratifying success in many cases of sore throat, in scarlet fever, in stomatitis and aphthous affections of children. Three or four applications will generally free the buccal and pharyngeal cavity of all vegetative or pultaceous growths or coatings. But when the disease takes the form of true diphtheria, when the false membranes are well characterized, although the progress towards cure is generally evident after each application, it is, of course, slower. In these cases the medicated sponge should be applied every six hours, until the diseased surface becomes entirely free from false membranes. The sponge should be well cleaned after use.

With the local treatment, Dr. Fourgeaud prescribes the following for internal administration:—℞. Potassæ chloratis, ℥ij; glycerinæ, ℥j; quiniæ sulphatis, ℥j; liquoris ferri subsulphatis, gtt. xx; aquæ, ℥iij. M. Half a teaspoonful to a tablespoonful of this mixture, according to the age, to be taken every four hours.

He has found the small quantity of the liquor ferri subsulphatis, in

the above recipe, sufficient for full remedial action on the system. It dissolves the given proportion of quinine perfectly, and the mixture is of a beautiful colour, clear and free from precipitate.

Besides being a good tonic, it has a decided effect on the morbid secretions of the respiratory tubes, and of the stomach and digestive canal. Dr. Fourgeaud has found it an excellent adjuvant in the treatment of croup, and of many forms of low fevers attended with gastro enteric debility, thickly-coated tongue, and curd-like and other exudations or pultaceous patches of the mucous membrane.

While administering this internal treatment in connexion with the local, strict attention should be paid to cleanliness, pure air, and warm clothing, and the patient should take abundantly of milk, beef-tea, plain nourishing food, and a stimulating beverage, such as brandy-and-water.

ART. 101.—*Treatment of Diphtheria with Calomel and Soda.*

By EDWARD L. DUER, M.D.

(American Supplement to *Obstetrical Journal of Great Britain and Ireland*, July.)

Dr. Duer highly extols the efficacy of small doses of calomel, and large doses of the bicarbonate of soda, and the free use of nutritious food and brandy. He states that he has treated a large number of cases of all grades of severity by this plan during the past season, with satisfactory results, and he acknowledges his indebtedness to Dr. Harlow, in the first instance, for the suggestion of this plan of treatment.

The two following cases will illustrate this mode of treatment.

“Grace V., æt. five years, previously strong and well; after short prodromic symptoms and a marked chill, presented all the general and local evidences of diphtheria. Her pulse was 140, quick and feeble; skin hot, face suffused; temperature in the morning, $103\frac{1}{2}$; great restlessness, bowels irregular, and the tonsils, with a dark background, were almost covered with the dirty-white, closely adherent diphtheritic membrane.

“Her sister Alberta, æt. seven, was taken sick the same morning, and presented an almost identical condition. The one was put at once on the chlorate of potassa treatment: 10 grains every third hour, as recommended by Vogel, and the other on calomel and soda, $\frac{1}{8}$ gr. of the former, and gr. v of the latter, every two hours. The only topical application was used alike in both cases, a weak solution of carbolic acid as a disinfectant, and the same supporting and stimulating plan was adopted in both. The following morning I noted little change in either case, excepting that Gracie had more difficulty in swallowing, though I may remark that neither of the children could swallow fluids without having them occasionally gush from the nostrils. During my evening visit on the second day, however, I noted the most marked improvement in Alberta, while Gracie's symptoms showed little evidence of yielding.

“Having now continued the calomel thirty-six hours, believing its

effect to be rather in proportion to the time of continuance than to the entire quantity given, I withdrew it, and continued the soda as before. By this time, in this case, the false membrane was coming away in detached fragments, and there was little evidence of local trouble left; but in the case of the other child, there had, as yet, been no change for the better. On the evening of the fourth day I found Alberta's tonsils again covered with false membrane, when I renewed the use of the calomel for twenty-four hours, with the same positive result. From this time the soda, which had been continued throughout the attack, was depended on entirely. At no time did the little patient show the slightest evidence of ptyalism, but as soon as she had been long enough under the influence of the calomel the false membrane seemed to yield up its connexion with the tonsils, while at the same time the general symptoms began rapidly to abate. On the morning of the fifth day, the temperature had fallen to 99° and the pulse to 90, and from that time she steadily improved, and convalesced under the use of tonics and nutritious diet.

"On the other hand, Gracie, to whom the potass. chlorat. had been given, continued so alarmingly ill that I was induced to substitute the calomel and soda treatment on the fourth day, and with a like immediate result, so far as the local trouble was concerned; but her convalescence, unlike her sister's, was protracted, tedious, and subsequently complicated with bilateral paralysis of the palate and lower limbs.

"In the course of a few weeks, I had occasion to treat five other children in this family, and it is scarcely necessary to say that the same plan was adopted, all responding quickly and positively to it."

ART. 102.—*On the Vomitive Action of Emetine.*

By M. D'ORNELLAS.

(*Bulletin Général de Thérapeutique*, Mars 15, 1873; *Gazette Hebdomadaire*, No. 20, 1873.)

M. Gubler has stated, in his *Commentaires Thérapeutiques*, that an emetic is probably eliminated by the gastric mucous membrane, and that the vomiting observed in animals after its injection into the venous system may be plausibly attributed to the local action of the eliminated agent.

Kleimann and Simonowitsch, after having injected emetic wine into the veins of dogs, made out the presence of antimony in the early vomiting. They concluded that the emetic excites vomiting by irritating the sensory nerves of the stomach, and not by affecting a nervous centre of vomiting. The presumption of M. Gubler was thus confirmed.

Dr. d'Ornellas has arrived at the same results with experiments on the action of emetine. He concludes that emetine is eliminated by the stomach, and that vomiting certainly takes place at the very moment of its elimination.

The following are some interesting particulars of these experiments :—

Vomiting usually occurred about forty minutes after the subcutaneous injection of emetine.

Dr. d'Ornellas killed some dogs by injecting them with strong doses of the poison. He then made an alcoholic extract of the stomach and intestine, and of the material contained in these organs. The extract thus obtained, when administered to pigeons, caused vomiting.

When both pneumogastric nerves are divided in the neck the animal vomits. If the animal be kept quiet this vomiting will cease. If emetine be then injected, the vomiting will not be reproduced in some cases, and in others it occurs tardily and not to any great extent. In the latter case, it must be admitted that the impression is transmitted to the nervous centres, and to the motor nerves by the great sympathetic, which thus, in a certain number of instances, makes up for the pneumogastric.

ART. 103.—*Physiological Actions of Theine, Caffeine, &c.*

By ALEXANDER BENNETT, M.D.

(*Edinburgh Medical Journal*, October.)

From the experiments conducted by himself Dr. Bennett has arrived at the following conclusions :—

1. The physiological actions of tea, coffee, guarana, coca, and cocoa are mainly, if not entirely, due to their proximate principles.

2. Theine, caffeine, guaranine, cocaine, and theobromine are powerful poisons, inducing a series of symptoms affecting the nervous, respiratory, circulatory, vaso-motor, and glandular systems, which terminate, if the dose be large enough, in death.

3. These five principles are to all appearances identical in physiological action.

Note.—It is to be noted, that owing to the extreme scarcity of cocaine, and the very small quantity obtainable, the observations with this substance were confined almost entirely to frogs and mice, and only in one instance was it administered to a rabbit; accordingly the experiments were not so extensive as in the case of theine, caffeine, and guaranine. For this reason also, the phenomena connected with the temperature and the glandular secretions were not so completely demonstrated. In every other respect cocaine had similar actions. The same may be said of theobromine, of which Dr. Bennett was unable to obtain a large quantity.

4. In small doses, not ending fatally, these five substances produce, 1st, cerebral excitement, not succeeded by coma; and, 2nd, partial loss of sensibility.

5. In large doses they produce, 1st, cerebral excitement; 2nd, complete paralysis of sensibility; 3rd, tetanic spasms and convulsions; and, 4th, death.

6. They paralyse the entire posterior columns of the spinal cord, also the entire system of peripheral sensory nerves, but the anterior columns of the cord and the peripheral motor nerves are not paralysed.

7. They frequently produce convulsions of a clonic character, but occasionally they cause tetanic spasms, which latter are sometimes so severe as to cause opisthotonos. There is at first sight a resemblance between these spasms and those following the administration of strychnia. But in the case of strychnia the action of the poison is limited to the spinal cord, the reflex function of which is so much excited that the slightest touch causes powerful spasms. A poisonous dose of theine, caffeine, &c., on the other hand, paralyzes the sensory nerves, so that external irritations do not affect the cord; but, notwithstanding, there are strong spontaneous spasms which are probably caused by the action of the drug on the cord itself, and which spasms are not to be considered as reflex in their nature.

8. They do not produce muscular paralysis.

9. They at first increase, then impede, and lastly stop the respirations.

10. They at first increase, and finally diminish, both the force and frequency of the heart's contractions.

11. They produce at first contraction, and afterwards dilatation, of the capillaries and small bloodvessels, with stasis of the blood, indicating first irritation and subsequently paralysis of the vaso-motor nerves.

12. They affect the temperature by, 1st, slightly lowering; and, 2nd, increasing it.

13. They usually produce contraction of the pupil.

14. They produce an increase of the salivary secretion.

15. They induce a peculiar form of tenesmus, accompanied by a copious discharge of clear mucus from the bowels.

The above are the conclusions at which Dr. Bennett has arrived from a large series of carefully-conducted observations. He does not describe in detail an account of all these, but appends in tabular form seventy-two experiments, showing a characteristic specimen of the effects produced by each of the different doses, with the results of post-mortem examinations, &c.

ART. 104.—*On the Sulphites and Hyposulphites in the Treatment of Intermittent Fevers.*

By Dr. GIOVANNI FARALLI.

(*A Memoir.* Milan, 1872, pp. 128.)

The general conclusions at which Dr. Faralli arrives are thus summarized by himself, viz. :—

1. That the zymotic nature of intermittent fevers is not demonstrated.
2. That although the sulphites in many cases cure intermittent fevers, yet their action is not so rapid and constant as that of the preparations of cinchona.

3. That their mode of action seems to depend on their reducing properties (viz., by removing oxygen) rather than in their antifermentative power.

4. That the only result obtained from them (as is proved by a con-

siderable number of facts) is their great activity in reducing abdominal swellings.

5. That their too long use produces a certain degree of anæmia, and thereby favours the development of paludal cachexia.

6. That their prophylactic power, which was once conceived to exist, is not supported by exact observations like that of the sulphate of quinia.

7. That in the treatment of intermittent fevers the sulphites are less efficacious than cinchona and its compounds, and should only be used when the latter have failed.

8. That the arsenical preparations, to which it is rarely necessary to have recourse in the treatment of miasmatic fevers, may still be employed with greater advantage than the sulphites for curing paludal cachexia.

9. That, therefore, of the three methods of treatment most commonly employed in periodical fevers, the sulphites and hyposulphites, being manifestly inferior as well in prophylaxis as in treatment, must be considered less efficacious than the preparations of arsenic.

ART. 105.—*The Use and Abuse of Strychnia.*

By JAMES THOMPSON, M.B., Leamington.

(*British Medical Journal*, August 30.)

The author desired to draw attention to the abuse of nux vomica and its alkaloids in patients' hands. Several cases were given in which patients were brought to the verge of delirium tremens by inordinate use of preparations containing these drugs. One case was given where the result of an overdose was nearly fatal. It would be well if prescribers of such active preparations would note on the prescription that the mixture was not to be re-dispensed unless countersigned. In the experience of the author it was not unusual to find that prescriptions, containing stimulating materials, were kept in hand, and used to an immoderate extent, when the recipient felt out of sorts and depressed, without any consent on the prescriber's part.

ART. 106.—*Remarks on a Method of Administering Leamington Spa Waters.*

By JAMES THOMPSON, M.B.

(*British Medical Journal*, August 30.)

By the present mode of administration of mineral waters only those invalids who can resort in person to the spring can obtain the water in the natural sparkling state in which it issues forth. Others, who, from personal circumstances or the nature of their maladies, are unable to come to the well, send for a supply; this, when they come to drink it, they find to be much more unpalatable than the freshly-drawn water.

In a short interval after the water is drawn the carbonic acid gas which it contains is driven off, and it then becomes flat and unpalatable. The proposed method will remedy this. The Spa water is artificially charged with gas under pressure, and is supplied in French syphon bottles containing three doses each. By this means invalids at home can have a much more palatable drink, and the beneficial medicinal properties of mineral waters are preserved for an indefinite time.

ART. 107.—*On a Peculiar Coloration of the Urine caused by Senna.**

By M. GUBLER.

(*Gazette Hebdomadaire*, No. 34, 1873.)

The author has found that the urine of patients who are taking senna has an intense yellow colour with a green reflection, like the urine in icterus. That bile takes no part in this coloration is proved on the addition of nitric acid. If a piece of caustic potash be thrown into a tube containing urine charged with senna, a magnificent purple colour will be produced. Nothing like this is produced by the action of potash on icteric urine. The coloration may be produced in any patient who has taken senna, whether in infusion or tincture. Urine charged with senna does not present, like normal urine, a rose colour under the influence of nitric acid.

M. Gubler has also proved that an infusion of senna when treated by caustic potash will take, in a certain degree, this purple colour. But the phenomenon is not so marked in this case, and M. Gubler thinks that in this case a phenomenon occurs analogous to that afforded by asparagus, turpentine, copaiba, &c. A certain degree of oxidation in the organs is necessary in order to produce this particular odour after asparagus.

A much less intense coloration has been obtained by M. Gubler with rhubarb. This, as well as the coloration caused by senna, is probably due to chrysophanic acid which is present in both drugs.

The coloration due to senna generally persists for twenty-four hours.

ART. 108.—*Bromide of Potassium as a Febrifuge.*

By CHARLES MACLEAN, M.B., Applecross.

(*British Medical Journal*, July 5.)

The following particulars of a case illustrate the value of bromide of potassium in fevers:—

“January 10th. B., a well-nourished woman, aged about forty, was taken ill four days ago, with a well-marked attack of enteric fever. Pulse, 140; temperature, 105·2° Fahr. The respiration was hurried;

* Communicated to the Société de Thérapeutique, Paris.

some sibilant *râles* were heard over both lungs. The expression of countenance was anxious. The tongue was red at the edges, with a whitish fur down the middle. The bowels were relaxed; the evacuations somewhat bloody. There was tenderness on pressure in the right iliac region. I gave a dose of chalk mixture, with ten minims of tincture of opium, to be followed by 20 grains of bromide of potassium three times a day.

"January 13th. There was remarkable improvement in all the symptoms. Pulse, 100; temperature, 101° Fabr. The characteristic pea-soup stools were present, without any blood. There was occasional cough, but hardly as troublesome as on this last day. The respiration was little, if anything, above the normal in frequency. Some pain was still occasionally felt in the right iliac region. The bromide was continued as before.

"January 14th. She was much the same as the previous day, and was ordered to continue the medicine, with milk and farinaceous diet.

"January 15th. She was improving. Pulse, 94; temperature, 99·5°. The evacuations were less frequent, and of the same character. The tongue was clean and moist. The countenance was placid. She was ordered to continue as before.

"January 17th. The medicine was omitted.

"January 19th. Pulse, 116; temperature, 100°. The tongue had become, as at first, furred in the middle, and was protruded tremulously. The face was flushed and anxious. Respirations 45 in the minute. Sibilus was heard extensively over the chest, but no small crepitation was audible, on the most careful examination. Thirst was complained of. The bromide was recommended at once; and diluents were given *ad libitum*.

"January 22nd. Pulse, 90; temperature, 98°. The countenance had a cheerful expression. The tongue was uniformly clean. The bowels were well. The cough was sometimes troublesome, but the respirations were 22 in the minute.

"January 23rd. The dose of bromide was reduced to 12 grains.

"On the 29th, convalescence was quite established; and on the 31st she was up most of the day and fast gaining strength."

ART. 109.—*A Contribution to the Therapeutical History of Calomel.*

By RANIERI BELLINI, M. D., Professor of Experimental Toxicology in the Royal Institution of Florence.

In an essay on the above subject Professor Bellini deduces twenty-four several conclusions, into which he sums up what he proposes as results established by clinical experience and experiments in the chemical laboratory. Of these we subjoin what appear to be the most practically important:—

That calomel introduced by the mouth into the fasting subject is, in a very small portion of the stomach, and a greater of the small intestine, changed into a soluble mercurial compound.

That in the stomach this change is effected by the lactic acid and the alkaline chlorides, and in the small intestine by the alkaline carbonates of the enteric fluids.

That calomel introduced into a stomach which is digesting protein aliments is either wholly or almost decomposed within that viscus, and that the results of such decomposition are metallic mercury and a soluble mercurial compound.

That acid drinks and fruit should be withheld during the use of calomel; but that magnesia, whether calcined or carbonated, administered during a course of calomel, promotes the local action of that mercurial.

That the use of calomel may be injurious when contemporaneous with that of ammoniacal salts, and also in certain diseased conditions, *e.g.*, in those suffering from ammoniema, uro-ammoniema, cholera, typhus, &c.

That the use of calomel might cause poisoning when administered contemporaneously with the hydrochloride of ammonium, with the aqua lauro-cerasi, with the alkaline or the metallic iodides and bromides, the alkaline sulphides, and the alkaline hydrobromates and hydriodates.

That opium and its preparations exercise no decomposing power on calomel, but render its effects less perceptible, not by any chemical action, but by their control of the sensibility.

That calomel applied externally, whether to a whole or an ulcerated surface, or introduced hypodermically, may be rendered soluble by the alkaline chlorides of the organic fluids with which it is brought into contact.

That such external application may produce severe local lesions, if there be contemporaneous internal use of the alkaline iodides, bromides, or sulphides, or even of sulphur itself in small and frequent doses.

And that lastly, clinical observation is in complete harmony with the results of chemical and physiological research.

ART. 110.—*On the Oleate of Mercury.*

By BERKELEY HILL, M.B., F.R.C.S.

(*The Practitioner*, April, 1873.)

Mr. Berkeley Hill states that since this preparation was introduced to the notice of the profession by Mr. Marshall, about a year ago, he has employed it in a large number of cases in hospital and private practice, with the following results. In the first place, if continuously applied, it quickly produces the usual effects of mercury on the system, and if used in sufficient quantity causes salivation. Secondly, it is apt, in delicate fair-skinned persons, to excite violent smarting pain, which, though rarely lasting more than half an hour, if so much, is enough to disgust them with the remedy. The irritation may even cause erythema and slight vesication, though he has never seen any more serious local effect than this. To avoid these undesirable occurrences, Mr. Marshall has devised three preparations of different strengths, containing 20, 10,

and 5 per cent. of peroxide of mercury respectively : to the weakest dilution, 10 per cent. of morphia as oleate of that base is added, to allay the irritation from the mercury, and assuage the local pain of inflammation when used for affections of that kind.

The preparations are best made according to a formula prescribed by Mr. Martindale, the dispenser to University College Hospital. For the 20 per cent. solution, stir 10 drachms of oleic acid in a mortar, while 2 drachms of precipitated peroxide of mercury are gradually sprinkled into it, and triturate frequently during twenty-four hours, until the peroxide is dissolved and a gelatinous solution is formed. The 10 per cent. solution is made in exactly the same way, but the smaller quantity of oxide renders the compound more fluid. The morphia and mercury oleate is made by dissolving 1 drachm of pure alkaloid of morphia in 5 drachms of oleic acid, and mixing the solution with 5 drachms of 10 per cent. oleate of mercury. It is necessary to use the oxide freshly precipitated from an aqueous solution, not one produced by dry heat ; and heat should not be employed to dissolve the mercury in the acid, as even very moderate elevation of temperature causes some decomposition of the oxide to take place.

With one or other of these preparations the application of this form of mercury can be continued on even very sensitive skins. When used for inunction instead of the grey ointment, about a scruple or half a drachm of the 20 per cent. jelly should be rubbed gently into the flank till it is absorbed by the skin, which occurs in about eight or ten minutes, leaving the skin almost dry and not greasy. This may be repeated once or twice in twenty-four hours, of course changing the site of the inunction each time. The anointed part may be washed next day without fear. This quantity usually causes swelling and slight soreness of the gums in a week if anointed once a day, and in four days if applied twice daily. Before using the stronger solution it is well to test the skin with the weaker form, lest too energetic application of the oleate should cause painful irritation and trouble. But Mr. Hill has found the 10 per cent. solution most useful as an adjuvant to the ordinary treatment by iodide of potash internally, or for persons whose stomachs do not bear mercury well. For example, in cases of leproid, or tubercular eruptions, relapsing after disappearing more than once, this form of mixed treatment is usually very successful.

The great advantage of the oleate over any other form of mercury when externally applied lies in the rapidity of its absorption, which makes it very serviceable as a kind of cosmetic—that is, to paint over syphilitic papules or stains in the face or other exposed parts. For this purpose Mr. Hill directs the patient to rub into the spots themselves, night and morning, a little of the 20 per cent. solution with the tip of the finger, the usual treatment being continued at the same time. It is remarkable to observe how rapidly the papules sink down and grow pale when the oleate is directly applied to them. If the 20 per cent. is too stimulating the weaker ones may be employed, though their effect is less satisfactory.

Again, the oleates are very useful in fissures of the fingers about the nails or in the palms. Rubbing the 10 per cent., or, if there is much soreness, the 5 per cent. solution with morphia, into the fingers at night,

and sleeping in wash-leather gloves, is a very effectual way of healing these troublesome affections. By day the cracks should be well closed by court plaster and plastic collodion, and gloves worn out of doors.

Mr. Hill states that he has not had much success with the oleate in non-syphilitic affections, but he has not tried it extensively. It has proved a very effective parasiticide for pediculi, as its penetrating power enables it to diffuse itself thoroughly over the scalp and pubis. He has also used it to inflamed joints as a controllant of inflammatory action, but has not perceived any clear benefit to be derived from its use in such cases. In syphilitic affections the oleate is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastening the subsidence of papules and other disfigurements of exposed parts of the skin.

ART. 111.—*On the Administration of Podophyllin.*

By ALFRED E. BARRETT, M.R.C.S.

As podophyllin in some combinations produces considerable pain without corresponding benefit, Mr. Barrett calls attention to a powder which he has used for some time, and which has proved extremely useful. The following is his formula:—℞ Podophyllin, gr. ivss; extracti elaterii, gr. ivss; pulveris jalapæ comp., ʒvj. M.—Half a drachm of the above powder in half a pint of warm water acts most effectually, and the cholagogue effects of the podophyllin seem to be assisted by the hydragogues, the latter washing out the bile in a most satisfactory manner.

ART. 112.—*On Marienbad Water.*

By V. JAGIELSKI, M.D.

(*British Medical Journal*, August 30.)

The author explained the separate effects of the various chemical components—viz., water, carbonic acid, sulphate of soda, chloride of sodium, bicarbonates of soda, lime, and magnesia, protoxide of iron, &c. After treating of special physiological influences, he described the collective effect produced by continued use of these waters, under the following heads:—1. The mild aperient action, expressive of high solvent power, which takes place without weakening the body, the iron counter-acting the influence of the laxative salts. 2. The stimulating action, a more remote effect, which takes place not on the receptacles, such as the stomach and bowels, but on more distant parts, as the kidneys and bladder, producing diuresis and an alkaline reaction of the urine, &c.; and on the circulation, nervous system, &c., through the influence of which are exerted the functions of all abdominal glands. 3. The tonic effects, expressed by a general improved state of assimilation, nutrition, &c., which, especially at Marienbad itself, give rise to an improved physical appearance in a short time, restoring all bodily and mental

energies to a normal condition of health. He recommended Marienbad and its waters, as invaluable prophylactic means to obviate long and painful disorders, as well as subsequent danger of apoplectic attacks, &c.

ART. 113.—*The Theory of Counter-irritation.*

By JAMES ROSS, M.D., Manchester.

(*British Medical Journal*, August 30.)

Counter-irritation was defined as the application of an irritant to one part of the body in order to influence morbid action in its vicinity. The theory advanced was that (1) the influence of the counter-irritant is conveyed by continuous and contiguous tissue, and not through the blood-vessels and the nerves; and (2) the influence conveyed is always of a stimulant character. An endeavour was made to deduce the first position from the general theory of inflammation, and the author stated that the second assumption would account for all the effects which counter-irritants are known to produce in the treatment of various diseases. A stimulant action might aggravate the disease in the first stage of inflammation, and counter-irritants were known to produce this effect occasionally. At other times a stimulant action might in this stage assist the disease through its natural progress by developing the second stage of inflammation. An instance of this effect occurred when the pain of pleurisy was relieved by a blister. In such a case the disease was not checked, but the effusion separated the pleuræ, and the pain was relieved. In the second stage of inflammation, and especially in chronic cases, a stimulant action was most likely to promote health, and it was in such cases that counter-irritants were most safely employed. A similar remark might be made with regard to cases of local debility, in the treatment of which counter-irritants were found useful. Quantitative differences were found to exist in the effects of counter-irritants according, first, to the proximity of the irritant to the seat of the primary disease, and secondly, to the degree of the artificial irritation produced, and these differences were easily explicable on the supposition that the influence exerted by the counter-irritant upon the disease was of a stimulant nature.

ART. 114.—*On the Employment of Silicate of Soda in certain Venereal Affections.*

By Dr. SÉE, of Paris.

(*Annales de Dermatologie et de Syphiligraphie*, No. 4, 1873.)

"In November, 1872, my colleague M. Dubreuil communicated to the Société de Chirurgie a case in which, inspired by the researches of M. Dumas and of MM. Rabuteau and Papillon, on the antiseptic and anti-fermentescible properties of the different salts of soda, particularly the borate and silicate, he had employed with excellent results the latter in

vesical injections on a patient affected with hypertrophy of the prostate and whose urine was putrid and ammoniacal.

"This communication started the idea of submitting to the external application of silicate of soda some patients under my care in the Hôpital du Midi, and the first results which were obtained were as satisfactory as those mentioned by MM. Rabuteau and Papiilon in their communication to the Académie des Sciences.

"These results encouraged me and my interne, M. Goutier, to pursue our trials, which were continued without interruption until the end of December, 1872.

"The cases which we were able to collect during six weeks, although not very numerous are so demonstrative, that I have thought it useful to publish them, so that attention may be directed to a medicinal agent which is recommended by its moderate price, by the facility and harmlessness of its employment, and by the certainty and promptitude of its action.

"Our observations were particularly directed to two categories of patients; those affected with acute or chronic gonorrhœa with or without orchitis, and those affected with penile chancres and inflammatory phimosis. It is well known that this complication of chancre is most unfavourable; it renders the treatment difficult and uncertain, on account of the difficulty or impossibility of exposing the diseased parts, and, consequently, of applying to them any remedial agent. Besides the stagnation, notwithstanding repeated ablution, of a virulent and readily inoculable pus, may augment the extent of the disorder and create fresh sores. Of all the topical agents employed under these circumstances the best undoubtedly is nitrate of silver employed in injections made with two grammes of the salt to 100 grammes of water; these injections being used six or eight times in the day.

"But this mode of treatment besides being expensive is attended with two grave inconveniences; the injections of nitrate of silver are very painful, and almost always produce, when continued for some time, as is generally the case, constriction of the prepuce and a kind of fibrous induration which render the phimosis permanent and oblige the patient to undergo an operation. Nothing of this kind results from the employment of silicate of soda.

"In acute gonorrhœa injections containing silicate of soda are much less painful than those of sulphate of zinc when employed at the same period. I need not speak of injections of nitrate of silver.

"In several cases the chancres which we had to treat presented a phagedænic character. In all these cases the influence of the solution was rapid and manifest.

"With regard to the dose of the agent, this varies according to the severity of the inflammatory phenomena, from one to three grammes of the silicate for 100 grammes of water. In no case did the silicate give rise to the slightest accident.

"By our observations it is shown that the treatment of acute or chronic gonorrhœa and that of soft or indurated chancres, accompanied or not by phimosis or paraphimosis, is notably abridged by the employment of the solution of silicate of soda. I cannot imagine any contra-indication which could oppose its employment."

Appended to this communication is a table of twenty-six cases of venereal affections treated by the local use of silicate of soda.

ART. 115.—*Physiological Thermometry and Mathematical Thermometry: their Applications to Medicine.*

By E. SEGUIN, M.D., New York.

(*British Medical Journal*, August 30.)

Dr. Seguin, after alluding to the confusion produced by the use of three scales of thermometer—Fahrenheit's, the Centigrade, and Réaumur's—advocated the adoption of a "physiological thermometer" with a centigrade scale, but with zero at the normal line of health, as determined by Becquerel and Breschet (*i.e.*, $98^{\circ} 6'$ Fahr., $29^{\circ} 6'$ Réaumur, or 37° Centigrade). He also proposed the substitution of mathematical tables of vital signs, easily written, and capable of being understood by nearly every one, for the graphic charts of the thermometric registration now often used, which he described as being difficult of application, and limited in use.

ART. 116.—*On the Physiological Action of Trimethylamine.**

By M. LABORDE.

(*Gazette Hebdomadaire*, No. 25, 1873.)

1. The so-called impure propylamine or trimethylamine, which has been recently used in the treatment of articular rheumatism, exerts primarily its action on the central nervous system, especially on the spinal cord. Its action, when given in physiological doses, is revealed by excitation and exaltation of functional disturbances of the cord, chiefly of the excito-motor, and subsequently by exaltation of the respiratory and circulating functions, whence acceleration of the cardiac movements. When it is given in poisonous doses, general depression follows this exciting action, and at this period only, that is to say, during the influence of large doses, there is retardation of the cardiac pulse and a fall of temperature. Death is produced by terminal cardio-pulmonary asphyxia. When absorbed by the stomach of the dog, three grammes, a medium dose, of trimethylamine, may be tolerated without the production of vomiting. It determines locally, especially on the tongue, some amount of irritation, which is manifested in the mucous membrane of the digestive organs, especially the stomach and duodenum, by catarrhal inflammation, injection, and superficial ulceration; and in the subcutaneous cellular tissue, when it has been injected, by veritable sloughs; it may also determine hæmorrhagic congestion of the kidneys and hæmaturia.

2. The physiological action of hydrochlorate of trimethylamine is substantially the same as that of trimethylamine, but differs in its diminished intensity. Even when administered in double dose, does the

* Communicated to the Société de Biologie, Paris.

salt produce such intense effects as the base. Neither of these agents can be considered as a direct modifier of the muscular elements and contractility, and cannot therefore be classed among the cardiac poisons.

3. With regard to the primary physiological action on the central nervous system, trimethylamine and its hydrochlorate present a real analogy with ammoniacal compounds, especially with the hydrochlorate and acetate of ammonia, but all other things being equal they differ totally in the intensity of the effects produced. The effects of the hydrochlorate and acetate of ammonia may proceed even to a convulsive tetanic action. Trimethylamine and its hydrochlorate does not produce more than muscular trembling, and an exaggeration of the chief functional acts of the cord.

4. In regard to the therapeutical applications which may be deduced from these experimental results, they seem to be in harmony with what has hitherto been suggested by empiricism.

In physiological doses trimethylamine and its hydrochlorate, the former especially, are general functional excitants; they accelerate and render active for a time the circulation. Depression of this function results only from large and continued doses. Even small doses are not altogether harmless, on account of the irritant action of these substances on the digestive and uro-poietic organs. One cannot then regard trimethylamine and its salt as veritable antipyretics; and in regard to their excitant and stimulant action, they are far inferior in efficacy and in certainty to the ammoniacal compounds already in use, especially the hydrochlorate and acetate, which may and should be employed in smaller doses.

ART. 117.—*Use and Abuse of Purgatives.*

By F. PAGE ATKINSON, M.D., late Surgeon, St. Bartholomew's Hospital, Chatham.

(*Edinburgh Medical Journal*, November.)

In this paper, Dr. Atkinson takes into consideration the subject of constipation, and shows when purgatives are beneficial and when injurious; and also lays down some general rules for their administration.

First, then, as regards the causes of constipation: these are—

I. Deficient contraction of the muscular coat of the bowel, owing to prolonged retention of fæces.

II. Deficient nervous and muscular power, occurring after fevers and exhausting diseases, or as one of the results connected with that terrible habit of self-abuse.

III. Intestinal excitement with deficient secretion, consequent on the habitual use of purgatives.

IV. Peritonitis.

The treatment in each of these cases is as plain as possible. In the first mentioned, get the patient to observe stated times for going to stool. If there is a difficulty in obtaining relief at first, give a nerve-tonic, as iron, quinine, nux vomica, &c., in combination with some purgative, as aloes, Epsom salts, compound colocynth powder, &c. A favourite form of mine is, *Extracti nucis vomicæ*, gr. $\frac{1}{4}$; *pulveris ipecacuanhæ*, gr. ss.;

pilulæ colocynthidis co., gr. iij; *extracti hyoscyami*, gr. iss. *Fiant pil.* ij, p.r.n.s. hora somni.

Where the patient is suffering from constipation after an attack of fever, or some exhausting disease, as diarrhœa, prescribe rest and support, and bracing air.

In the case of self-abuse, the habit must be stopped, or but little permanent good can be expected.

Where there is intestinal excitement, consequent on the habitual use of purgatives, convince the patient first of all as to the injurious effects, and the non-necessity of purgatives; point out clearly, at the same time, that there may be some little difficulty, and that it may take a little time to get the system in a proper healthy condition; then order a cold sponge-bath every morning on rising, and a wet bandage to be worn round the waist during the day. The diet should be light and nourishing; highly-seasoned meats should be avoided, and light wines should be taken in preference to port and sherry; the mind should be kept diverted as much as possible, and the patient should take a moderate amount of walking or riding exercise daily.

If a purgative should be required at first occasionally Dr. Atkinson recommends the following:—*Extracti aloes socotrin*, gr. ij; *ferri sulphatis gran.*, gr. i; *extracti belladonnæ*, gr. $\frac{1}{2}$; to be made into a pill, and taken at bed-time; but get the patient to abstain from using purgatives as much as possible.

Where peritonitis exists order the patient to keep as quiet as possible; spongiopiline dipped in a decoction of poppy-heads, and camomiles or a linseed poultice, made up with the above, to be constantly applied to the stomach; opium to be given internally, and a diet consisting of beef-tea, milk, jelly, corn-flour, and lightly-boiled eggs.

Having now considered the causes and treatment of constipation, let us see what symptoms indicate the necessity for the use of purgatives.

Is it necessary, in order to the preservation of health or the recovery from illness, that the bowels should be moved every day? Most undoubtedly not, and, as a proof of this, he cited three instances at the present time where, though the persons are in perfect health, the bowels are only moved once a week. During illness nature often makes this effort towards the preservation of strength—*e.g.*, in quinsy—and she again sets to work to perform her natural duties as soon as the strength is sufficient for the purpose. And, again, to show what may be done mechanically, he mentioned that in one case where he thought hectic fever might come on if the patient were at all lowered, he kept the bowels locked up for one month, and the result was an excellent recovery.

See, too, what nature does when the system has become exhausted by diarrhœa or fever: she measures the end by the necessity of keeping all things quiet till the patient is sufficiently strong.

In the commencement of fever serious harm may be done by the administration of a purgative, for the bowels may get into such an irritable state that nothing will quiet them. This especially holds good with respect to enteric fever.

It must be remembered that purgatives cannot draw off morbid poisons, or get rid of any mechanical obstruction in the bowels, any more than they can remove a clot on or in the brain.

The habitual use of purgatives amongst women Dr. Atkinson believes to be one of the most fertile causes of hypochondriasis (upsetting, as they must do, the stomach and the solar plexus of the sympathetic), as well as of uterine and intestinal congestion. They are useful when used with discretion in amenorrhœa; dropsy resulting from disease of the heart, liver, or kidneys; sciatica, when dependent on a loaded state of bowel; and in cases where there are dull, heavy, and languid feelings, with a disinclination to mental and bodily exertion, an irritable temper, failing appetite, and coated tongue. The nature of the purgative must depend, of course, on the nature of the case; but in amenorrhœa aloes and myrrh pills are the best; in dropsies the compound jalap powder is of most service; in sciatica, the compound colocynth pill, or the compound decoction of aloes, may be recommended; in hæmorrhoids, the confectio of senna; while in cases of biliousness, a blue pill, followed up by a dose of Epsom salts, appears to give the most ready relief (the blue pill acts on the duodenum, and hurries the bile downwards, while the Epsom salts cause the other part of the bowel to contract, and so evacuate the bile before it has a chance of being re-absorbed into the blood). It often happens that slight biliousness may be got rid of by exercise, a light diet, and a little effervescing saline. Supposing a necessity to exist for the administration of a purgative, it is often a matter of doubt how often the dose should be repeated: the rule he adopted was to repeat it once, and if after this there is no action, to give a copious warm water enema. This is safe practice, and the desired result is almost always obtained at once. He recollected on one occasion being consulted by a fellow-practitioner regarding a case where a succession of purgatives had been given without any effect, for a supposed case of stoppage, and the patient was said to be sinking. He advised his friend to order fomentations to the stomach, and a full dose of laudanum. This he did, and the patient began to recover from that moment, and eventually got perfectly well. From all he could see, he would say the less we make use of purgatives the better. Nature knows her own work, and if we take regular mental and bodily exercise, eat and drink moderately, we shall find this as a rule quite sufficient for keeping us in good sound health, and also for preserving a *mens sana in corpore sano*.

ART. 118.—*The Danger of Badly-made and Old Catheters.*

By M. DEMARQUAY.

(*La France Médicale*, No. 28, 1873, and *Edinburgh Medical Journal*, November.)

This apparently trite and trivial matter is the subject of an important paper by M. Demarquay, from which we extract the following conclusions:—

In many cases patients using catheters break off pieces in their bladders, and such accidents are dangerous and troublesome. The fracture is due, in some cases, to bad manufacture; in others to the age of the instrument. Nearly all Parisian instruments are liable to become

brittle by age. Also special conditions of the patient render catheters liable to break. These conditions may be either in bladder or urethra. If a catheter has been left long in a bladder which contains pus it *sometimes* will be found to have the point altered and brittle, but this is not invariable, nor does it seem to depend on the *quantity* of the pus in the urine. What causes the difference? Ammoniacal urine does so, but there are special conditions of inflammation which still require study in this point of view. Well-made instruments, and especially those made of vulcanized india-rubber, alter more slowly, but even they do alter in time. The changes are of two kinds. In some the varnish comes off, and the substance of which this instrument is made comes to pieces, and some layers of it may even fall into the bladder; or the roughened instrument may become coated with calcareous deposit, become rough, and cause much suffering on its removal.

In other cases a catheter may, after some days, or even some hours only, in the bladder, be removed greatly altered, not so much in the part which had been in the bladder as in that which was in the urethra. He lately saw this occur after only twelve hours in a patient who had stricture of the urethra. From his case he made out—1st, That the alteration in the instrument was proportioned to the amount of inflammation in the canal, and to the alkalinity of its secretions; and, 2nd, that the better the instruments were made the less change took place. Great differences exist in the manufacture of instruments. After a careful description of the methods of manufacturing good and bad instruments respectively, M. Demarquay points out that bad ones can be made more cheaply than good ones, and that, consequently, large numbers of dangerous instruments are made and exported. He suggests that instrument-makers should be inspected as well as druggists, and equally punished for selling dangerous instruments. In a word, in acid or neutral urine even ordinary instruments are not liable to change, but in alkaline urine, and in proportion to the degree of its alkalinity, they do alter sooner or later, according to the quality.

ART. 119.—*On the Acoustic Principles and Construction of Stethoscopes and Ear-Trumpets.**

By CHARLES J. B. WILLIAMS, M.D., F.R.S., Consulting Physician to the Hospital for Consumption, Brompton.

(*The Lancet*, November 8.)

After noticing the invention of the stethoscope by Laennec, its modification by Piorry, and the introduction of the trumpet-end instrument by the author thirty years ago, he enunciates the principle of the stethoscope to be to conduct the sounds from the chest to the ear, both through its solid fibres and through its enclosed column of air. He then considers the *material* and the *form* best suited for this office. Wood, as a conductor of sound, is the best material, especially deal, and such

* Read at a Meeting of the Royal Medical and Chirurgical Society, October 28th.

woods as are rigid in longitudinal fibre, and yet light; the same reason makes them fit for sounding-boards of musical instruments. The only objection to wood is its fragility, especially when reduced to the shape best suited for stethoscopes. Metals are good conductors, but their coldness when first applied to the chest and ear, and their weight, are objectionable. Horn, *papier maché*, or gutta-percha, would answer better; but a more suitable material is found in a preparation of india-rubber called *ebonite*, being easily formed into any shape, being also light, durable, and a good conductor of sound. With regard to the form of the instrument, after long and varied trials of stethoscopes of different shapes, the author is convinced by reason as well as experience that the trumpet-end instrument is the best. Conducting the sounds by its enclosed column of air as well as through its solid walls, this trumpet-end brings both its solid and its contained air into closer contact with the chest-walls, from which the vibrations proceed, than can be done with a conical end, or any other; and there is neither too much hollow, which causes a confusing reverberation, nor superfluous weight of solid, which checks the weaker vibrations of sound. This form is also more comfortable to the patient, and easier and more steady for the observer, because its application is by a flatter contact and a firmer base than that of conical instruments, the edges of which often give pain. After discussing the subject of the transmission of sound through flexible tubes, the author admits their power, but concludes that the sounds are more or less modified by reverberation in them, especially when long or with large hollows. Dr. Williams concludes the subject of stethoscopes by a description of two forms made in ebonite—one for the hat, another for the pocket—and of some of their uses.

The acoustic principle of the ear-trumpet is quite distinct from that of the stethoscope. The latter simply conducts pectoral sounds through its solid and its enclosed column of air. The ear-trumpet, on the other hand, acts solely as a reflector to receive the waves of sound from the open air, and to direct them into the ear as a focus. The best materials for reflecting aerial sounds are those hard and dense, such as metals, glass, porcelain, &c.; but the weight of some of these, the fragility of others, and the intrinsic tinkling note of all, form objections to their use as ear-trumpets. Still the best instruments in common use are made of silver, plated metal, or japanned iron. The lightness of aluminium would render it more eligible. Polished ebonite also forms a good reflecting surface, and although inferior to metal, has advantages over it in lightness and freedom from intrinsic sounds. The form of the ear-trumpet requires careful consideration. The simplest and most efficient reflector is a hollow cone with a wide base open to catch as large a body of sound as possible, and to reflect it in the simplest and most direct way through the apex into the ear. All repeated or secondary reflections of sound, as in parabolic and spheroidal cavities, are to be avoided; because, being retarded, they confuse the sound by an echo following, instead of adding to its distinctness. Such instruments may increase the noise, but they impair the clearness of articulate sounds, which ear-trumpets ought to convey pure, and unmixed with extraneous notes. But in point of fact these confusing sounds are met with in all ordinary ear-trumpets, causing the conch-like roar, like that

of the sea heard in large shells. This noise is a reverberating echo of sounds from without, and takes its tone from the note proper to the size of the cavity or tube in which transverse or longitudinal vibrations are excited, responding to every noise or impulse. These noises are confusing, and often painful to sensitive ears, and should be avoided. They are much lessened by widening the open base of the cone; but they may be further diminished by several other expedients, as exemplified by the instruments exhibited, the most convenient of which is obliquely truncating the cone, leaving open half or more of its length. In so doing the instrument has an obvious resemblance to the ears of many quadrupeds, and probably this form is wisely designed to aid their hearing without the confusing noise of mere tubes and cavities. Perhaps, too, the hair with which the ears are fringed may subserve a like purpose, from which a hint may be taken if required.

After the reading of the paper, Dr. Williams exhibited and explained various forms of stethoscopes and ear-trumpets. Acoustics had been studied more in relation to musical notes than to common sounds, which could be better understood by bearing in mind the definition which he had formerly given of sound—*motion of a certain force resisted by a certain force*. The moving and resisting forces acting alternately in opposite directions constitute the vibrations of sound. These are best produced and conducted in hard rigid bodies. But the conduction of sound is favoured also by similarity in density: thus a solid transmits its vibrations most powerfully through a rigid solid of the same density, and much less freely through air. The sounds of air but feebly affect dense solids, such as metals, which reflect or turn them back. But a solid of tense density and great rigidity, such as wood, transfers vibrations more freely from metal to air, and from air to metal, as exemplified by a tuning-fork on a sounding-board, and this property renders wood the best material for stethoscopes, which have to conduct sounds from the chest, generated both in air and in solids, to the solid structures of the ear. But the aërial sounds of the chest it transfers still more perfectly through the column of air enclosed in the stethoscope, which thus becomes a sounding-board conductor, sensitive through the rigidity of its walls and the lightness of its mass, to receive and transmit the weakest vibrations. To exemplify these remarks, the following stethoscopes were shown, with passing comments:—Solid perforated cylinders introduced by Laennec; one actually made and used by him, too heavy and clumsy, and not well fitting to the ear or to the chest; unperforated cylinder, inferior in conducting power for breath- and voice-sounds. Piorry's slender stethoscope, with ivory cap and pleximeter: too small at pectoral end; ivory screws troublesome, and impair conducting power. Modification of the last, of wood only, with larger conical end and stopper to fit, without screws: a good instrument. One of this kind had a hole in its side, to show that opening the column of air much impairs the conducting power; closing the hole restores it. Another instrument of this shape had a drum of india-rubber at its pectoral end; this, by preserving air-tight the enclosed column of air, enabled it to conduct sounds well without full contact, as on the ribs of very thin patients. The thin india-rubber water-bag of Dr. Scott Alison is useful for a similar purpose with any stethoscope,

by increasing the contact and conducting power for thin subjects, or even when applied outside the clothing. Trumpet-end stethoscopes, in wood and in ebonite, made either in one piece (to be carried in the hat), or with the ear-end to take off and fit into the chest-end, thus making it strong and portable for the pocket; these are the last stethoscopes devised and recommended by Dr. Williams, and manufactured by the India-rubber Company at Silvertown and Cannon-street. A binaural stethoscope, constructed by Dr. Williams thirty years ago, was also shown, made of wood, with metal tubes and ear-pieces of wood; it was found to convey sounds from the chest with exaggerated loudness, but, being inflexible, it was awkward for application. The double stethoscope of Dr. Leared, shown at the International Exhibition of 1851, was a great improvement, in being flexible and fitting to the ears with a spring. The binaural and differential stethoscopes of Dr. Marsh and Dr. Scott Alison seemed to promise still further advantages to those whose hearing is equally good in both ears—a capacity which a great many do not possess. But of all these instruments, and of most long flexible stethoscopes, it must be said that, although some sounds are exaggerated, others are impaired, and there is not that distinctness and simplicity which we hear in the sounds transmitted through the short wooden or ebonite instruments.

With respect to ear-trumpets, the members were requested to try some of those in common use, of which several good specimens were before them, kindly lent for the occasion by Messrs. Coxeter and Messrs. Weiss. The long flexible ear-tube answers perfectly well for a *tête-à-tête* conversation with a deaf person, but the ear-trumpets to be used in society or in public assemblies all had more or less of the roar of reverberation, drowning and confusing articulate sounds. Of the wide conical ear-trumpets in which Dr. Williams had tried to obviate this, one was made of japanned tin-plate, with eight or ten small holes in the sides, to give vent to the transverse vibrations. This expedient was partially successful, the roar being slight and the magnifying power about ten times—that is, the ticking of a clock could be heard at ten times the distance at which it could be heard by the unaided ear. A longer cone (about eighteen inches) of stiff paper, ending in a short ear-piece of metal, was still more free from roar, and magnified the sound twelve times. This was the most successful of all the ear-trumpets. A third smaller cone, of gutta-percha, having two diaphragms of stiff paper running in the axis of the cone, with their planes crossing at right angles in the centre, to check the transverse vibrations, was partially successful, magnifying eight times. Lastly, a cone of ebonite, twelve inches long, truncated obliquely to half its length, magnified ten times, with only a slight roar excited by loud sounds. This last Dr. Williams considered likely to be the most available instrument for common use, and it would be improved by opening the cone further to two-thirds of its length, which would make it still more like the ear of a quadruped. Taking this for a model, and avoiding as much as possible tubes and cavities, which are the cause of confusing reverberation, we may hope to get means to aid the failing hearing to some extent, as we do the failing sight.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 120.—*On Inflammation.*

By ROBERT DRUITT, M.R.C.P., F.R.C.S.

(*Cooper's Dictionary of Practical Medicine*, 2 vols. London, 1872.)

The following is a summary in the form of twenty-four general conclusions given in Dr. Drutt's able article on inflammation:—

"1. Inflammation cannot be defined as to its essence, so that the best plea is to define it by its accidents as a 'diseased process attended with hyperæmia and exudation,' or with pain, heat, redness, and swelling.

"2. There are certain natural processes which resemble it in some respects, as erection, ovulation, menstruation, lactation, salivation, and the action of the intestinal mucous membrane during digestion.

"3. There are certain morbid processes into which inflammation passes by insensible gradations—to wit, neuralgia, hypertrophy, tumours, benign and malignant, mucous flux, and hyperæmia.

"4. But as neuralgia, hypertrophy, tumours, fluxes, and hyperæmia may (like the best examples of repair) occur without inflammatory symptoms, so it is clear that the term 'inflammatory' applies to the manner in which these changes take place, that is, if they take place in a rapid, violent, and painful manner (W. Moxon, 'Analytical Pathology,' *Medical Times and Gazette*, 1870, vol. ii. p. 441). The diagnosis of inflammation is chiefly founded on hyperæmia, heat, exudation, and progressive change.

"5. The superaddition of inflammatory characters to marked processes brings into play a new order of phenomena, requiring special treatment.

"6. The essential seats of inflammation are tissues in their minute structure. The vessels, nerves, and lymphatics are instruments but not essential agents. Yet some inflammations are diseases *in* a part rather than *of* it, beginning with capillary embolism or afflux of morbid blood-elements (Beale), or with the intrusion of morbid leucocytes.

"6. Theories of inflammation must be comprehensive, not exclusive. All theories heretofore in vogue have some partial truth, but no one can be accepted as a view of the whole truth. The doctrine of the state of the blood, of humours, of the influence of the nervous system, of the action of vessels, the action of 'cells,' of exudations, of embolism, and of leucocytes, are not incompatible, but may be held as so many parts of a harmonious system.

"8. Inflammation of any part must be considered an expression of invitation or wronged vitality of defective resistance to causes disturbing

the processes of nutrition; the liability increasing in proportion to the weakness and sensibility. Injury to living tissue 'renders it incapable,' as Goodfellow has well expressed it, 'of exercising its proper affinities,' of growing in harmony with the organism of which it forms a part. The same rule holds good, as Virchow has shown, with regard to vegetables as to animals.

"9. It is the characteristic of high health and vigorous life that injuries are healed without nerve irritation and inflammation, and that morbid states of the blood, from improper food, cold, or the like, are got rid of by the normal processes of oxydation and excretion.

"10. It is under conditions of weak health and lessened vitality that fevers and inflammations are most likely to occur.

"11. There is nothing benevolent nor conservative in fever and inflammation. They are grievous wastes of force and substance, and imply a prodigal production of the lowest amœboid forms of organization.

"12. It is a pernicious doctrine to hold that 'nature, feeling herself injured, sets up inflammation to restore the damage or recover the health.' If there be damage, it is the duty of the practitioner to remove causes of irritation and to quiet the nerves, till natural processes of oxydation and elimination shall have got rid of any material cause, and till an injured or fatigued organ can recover its nutrition.

"13. The best result of inflammation is that it sometimes produces a new organ of oxydation or elimination, as in gout, mucous flux, and critical abscess. But as these may risk life and health, it is the surgeon's duty to render them needless by the means just mentioned.

"14. Of the causes of inflammation some reach the part from without, as wounds; others through the blood. In the latter case the blood is sometimes the mere vehicle, as of cantharidine to the kidneys. But the real blood diseases are those produced by some modification of that fluid, whether spontaneous or resulting from chemical substances acting as ferments (6 supra).

"15. The last-mentioned class of cases constitute the 'fevers' of which local inflammations are products and symptoms. In a true 'local' and traumatic inflammation the feverishness is secondary and symptomatic.

"16. But in all great idiopathic inflammations, and in the cases of injuries in which septicæmia has occurred, the local symptoms are as secondary as are the lesions in typhoid or scarlatina.

"17. For the great idiopathic inflammations, just as for acute rheumatism, we ought to restore the term 'fever.' Just as we speak of rheumatic fever, so we ought to speak of gout, erysipelatous, pneumonic, pleuritic, and peritoneal fevers. So the greatest physicians always did, Hippocrates, Sydenham, Hoffmann, Hexham, and Fordyce. To speak of erysipelas, gout, or pneumonia as *local* inflammations is absurd. Pathology in this instance must *recueillir pour mieux sauter*.

"18. Just so inflammation, tumours, malignant and other, hypertrophy, 'tubercle,' elephantiasis arabum, and the like, ought to be taken as members of one series.

"19. We cannot attempt to give, even in the most general form, the treatment adapted to each kind of inflammation, for, in truth, that of every

case must be adapted to the cause, the degree, the constitutional peculiarity, the organ or tissue involved, and the stage. Remedies that would be useful in an early stage may be useless or pernicious afterwards.

“20. It is preventive treatment which should be the surgeon’s great study. In all cases of injury or threatened inflammation, by rest; if there be a wound, by providing against putrefaction and germs; in many cases after exhaustion and exposure, by a moderate use of stimulants, with a warm bath and nutritious food. In cases of wound or parturition, the first impressions on the nervous system should be neutralized by opiates. In cases where excess of food and a gorged condition of the alimentary canal exist, an incipient case may often be cut short by purgatives. In malarious cases, quinine; in gout, colchicum seems to have the power of suppressing that nervous condition which permits of local mischief; and it is for specifics of this kind, as preventives, that the practical surgeon should pray.

“21. If an inflammation be already lit up, a different order of remedies may be requisite, just as fire-engines must be had to check a conflagration, the first spark of which might have been put out by a housemaid’s mop. Bleeding should be practised if the condition of the *patient* seem to render it expedient, if not, a labouring organ may be freely reached. Purgation, saline and opiate remedies and wine may be added, according to the needs of each case.

“22. In the fully-established inflammation, when the effusion or other result has taken place, the surgeon will think of giving vent to discharge, of supporting the strength, and repairing the mischief which he has not been able to prevent. There is nothing unreasonable in believing that a bath and brandy and water may prevent an attack, which may require bleeding if fully developed, and wine at its close.

“23. In the reparation of injuries, and in diseases whose course is known and regular, the treatment must be chiefly expectant.

“24. In every instance the surgeon at the bed-side will do well to divest himself of all abstract and metaphysical notions, and to see before him, not a ‘case,’ but a brother, a being of flesh and blood, whose body and soul require to be dealt with by moral and material agents, according to the needs of each.”

ART. 121.—*Lectures on the Surgical Treatment of Aneurism in its Various Forms.**

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(*Medical Times and Gazette*, June 21, July 5, 19, 26, August 2 and 23.)

LECTURE I.

It will be remembered by our readers that in the lectures delivered last year Professor Holmes described what had been done or attempted in the surgical treatment of aneurisms originating in the great cavities—

* Delivered at the Royal College of Surgeons, June, 1873.

the thorax and abdomen. It was then shown that there are grounds for believing that in some cases the fatal progress of thoracic aneurism had been arrested, and in a few a cure had probably been accomplished; that innominate aneurism had certainly been sometimes checked, and might possibly be cured, by Brasdor's operation; that subclavian aneurism is not absolutely incurable; and that in aneurism of the abdomen compression as a means of cure has taken rank as a recognised operation.

The object of the present course of lectures is to review the progress of surgical practice, since the time of Mr. Guthrie, as applied to the treatment of aneurisms in arteries more distant from the heart. There will be no difficulty in proving that there is no known form of external aneurism which may not be cured without any surgical operation. The cure of such a disease as axillary aneurism by a few hours' pressure under chloroform, or of carotid aneurism by the compression of the patient's own thumb, are real triumphs, of which John Hunter, who himself made sedulous efforts to obtain them, would have been proud.

An attempt will be made to discover what are the conditions in each form of aneurism which render such "consecutive proceedings" possible, and to induce surgeons to pause before resorting to operations which in most regions of the body are very fatal in their results.

It may be doubted whether surgeons are even yet fully aware of the fatality of the operation of ligation of the larger arteries. It is true such fatality does not form any argument against the use of the ligature if no better treatment exists; but it is a reason why some other method should be sought after. On the other hand, compression as applied to carotid, axillary, or subclavian aneurisms has been either slighted or denounced by surgeons, even up to the most recent time.

The Professor stated that in advocating the use of compression he would not have it supposed that he intended to decry the ligature or to represent compression as either easy, safe, or certain in any case, or to recommend its adoption in every instance of any given form of aneurism. Compression, like every other surgical procedure which is effectual in the treatment of formidable diseases, has its own risks of death or failure.

The lectures of this course must, from the extent of the subject, be restricted to aneurism of the neck, head, and upper extremity. The main points to which attention now will be drawn are—

1. The superiority of the modern method of ligature with catgut, cut short and buried in the wound, does not preclude the employment of compression.

2. There are forms of carotid aneurism easily curable by compression: and the compression of the carotid, though difficult and painful at first, may often be rendered successful by perseverance on the part both of the surgeon and the patient. For these reasons the ligature of the carotid, which has hitherto been a very fatal operation, ought, as far as possible, to be avoided.

3. When the ligature of the carotid becomes necessary, it may often be advisable to evacuate the contents of the sac and secure the distal end of the artery.

4. Brasdor's operation on the carotid artery, though very rarely indicated, yet rests on sound anatomical and surgical principles.

5. Traumatic aneurisms and wounds of the vertebral artery are often confounded with lesions of the carotid, but such injuries ought to be diagnosed from those of the carotid, and may very probably be successfully treated by compression or by the old operation.

6. Under the term "Orbital aneurism" appear to be comprised several different affections. Some of these lesions appear to be spontaneously curable, or to have little tendency to a fatal result, and the others are very probably often curable by milder measures than the ligature of the carotid, which should be as long as possible avoided in this disease.

7. It is possible that in some rare cases intracranial aneurism may be diagnosed and successfully treated.

8. Arterio-venous aneurism in the neck is usually, but not always, harmless.

9. There are many cases of axillary aneurism which are curable by compression, and many instances of cure by this method are already known. Ligature of the subclavian, on the other hand, is a very deadly operation, and the more so the higher the aneurism extends.

10. Though Mr. Syme appears to have been in error in speaking of the old operation as being generally preferable to the Hunterian ligature in axillary aneurism, yet there are cases of injury, and more rarely of aneurism, of that artery in which a surgeon may be justified in preferring it—having always before his mind, however, the possible necessity of amputation.

11. Manipulation, or some other method of local treatment, may possibly be successful in some cases of axillary aneurism, but there is no trustworthy experience on this head at present.

12. Brachial aneurism—traumatic or spontaneous—as also similar aneurisms below the bend of the elbow, may be usually treated with success, in the absence of heart disease, which, however, often complicates the spontaneous form.

13. Arterio-venous aneurism at the bend of the elbow is now commonly made amenable to digital compression, properly applied.

The treatment of aneurism by compression is the chief question of the day in the surgery of this disease. It has its failures and its dangers, as well as its cures; and its success depends not only on the adaptability of the case for such treatment, but also on the degree of care and completeness with which it is carried out. The failures of compression are usually due to want of care or of knowledge on the part of the persons to whose supervision the surgeon is generally obliged to commit the case. The case related by Vanzetti in the *Gazette des Hôpitaux* (page 519, 1862) is very instructive, and led that surgeon to the determination never to give up the attempt at cure by digital pressure in any given case till he had tried it himself. It is desirable that we should know what has really been effected by pressure in the hands of the general run of surgeons—i.e., how far it has come into general use in each kind of aneurism, and whether the result has been such as to show a marked improvement upon the previous practice. For the decision of this question, Professor Holmes has compiled a table of 337 cases of aneurism recently under surgical treatment at more than thirty hospitals situated in London, the provinces, Scotland, and Ireland.

These being taken without selection or rejection, just as they occurred in practice, give, no doubt, a fair view of the prevalence of the various forms of this disease and of the means adopted in their treatment.

It must not be concluded from the frequency of failure of compression that the carbolized catgut ligature of arteries ought to supersede any attempt to treat a case by compression. We have undoubted anatomical proofs that the catgut ligature may be removed by absorption, the ligatured vessel remain undivided, and the wound heal by first intention without the patient even being in danger of secondary hæmorrhage. This immunity from secondary hæmorrhage is attributable quite as much to the rapid union of the tissues which support and nourish the artery as to the mere use of the material. Cases were referred to which show the reality of union after ligature of an artery without any division of its external coats. But then other cases are forthcoming to prove that this method of ligature is not without its drawbacks; in fact, ligature of arteries with carbolized catgut, in spite of all known precautions to insure rapid union, is exposed to the same risks of failure as beset every other surgical procedure we know of. Still, for all that, it is the best method of tying an artery which has been as yet invented, for it holds out a prospect of union by the first intention, and with no possibility of secondary hæmorrhage, which is impossible when the common silk ligature is used. It is, however, a long step from this to the other extreme, which urges that a patient is safer with this form of ligature than under the trial of compression. On the contrary, it is conclusive that the ligature should be avoided in any form of aneurism in which there is a fair prospect of cure without operation.

After his remarks upon the comparison of the treatment by compression with that by the catgut ligature, the Professor passed on to the consideration of the first form of aneurism on the list—viz., of the common carotid.

Any part of this vessel may be the seat of disease or of injury; but undoubtedly the upper end near the bifurcation is the most usual position for aneurism of the common carotid, whether from disease or accident. Attention was first called to three characteristic examples of this lesion, to show the applicability of the three main resources of Surgery in its treatment. The first, a preparation in the Hunterian Museum, No. 1685, showing the ease with which the disease might in all probability have been cured by pressure. The second, a diagram, taken from Scarpa's work, showing a large tumour springing from the left common carotid artery by a rounded orifice of small size not much above the root of the neck. The internal coats of the vessel are distinguishable for some little distance around the orifice. The tumour is of large size, displacing the trachea and œsophagus, and extending upwards beyond the bifurcation of the artery. Though in this condition the case was probably quite incurable, yet there must have been a previous stage (when the tumour was smaller) when a hope of success by Brasdor's operation might have been entertained, even if distal compression had failed. The third case, one of diffused aneurism near the bifurcation of the common carotid vessel—produced from the museum of St. George's Hospital—shows well the mode of formation of this form of aneurism—viz., a small rupture of the artery consequent upon the

giving way of an atheromatous patch. Here ligature of the carotid would have given a good chance of recovery at one time.

Aneurismal dilatation occurs not unfrequently at the root of the carotid in the neck (usually, if not always, on the right side), merely as a feature in that general dilatation of the great arteries near the heart. This does not involve such danger as true aneurism does. Illustrative cases were referred to; but most surgeons probably have had opportunities of watching patients in whom the root of the carotid has been sufficiently dilated to give the appearance of aneurismal pulsation, but where all other signs of aneurism have been absent. The patients suffer no great pain, or alteration in the local condition. Such cases occur always, the Professor thinks, beyond middle life, and usually in old age.

It has been imagined that an aneurism of the left carotid might exist having its mouth between the arch of the aorta and the sterno-clavicular articulation. The question is an important one as bearing on Brasdor's operation. Professor Holmes is not aware that any preparation of an aneurism in this precise situation has as yet been put on record. Scarpa's case prevents us from denying the possibility of a carotic aneurism occurring in the thorax, in the same manner as it arose in the vessel a little higher up.

The frequency of aneurism of the carotid artery, as exhibited by the list referred to, shows it to have existed in twelve out of the 337 cases collected from British hospitals during the last ten years. In one of the cases the aneurism affected the external carotid; it was of the traumatic form. In all the rest the common carotid seems to have been the situation of the aneurism. All were spontaneous except one. Three of the patients were females, the rest males.

Of the various methods of treatment in eleven of these cases (for one woman was discharged without any treatment being attempted), the ligature of the common carotid was resorted to in nine of them; in the tenth case the common carotid was tied for a traumatic aneurism of the external carotid following a suicidal wound, and this terminated fatally; in the eleventh case instrumental compression was employed successfully. Of the nine cases in which the common carotid was tied, five died, and in a sixth case the cure of the aneurism was by no means complete when the patient died of visceral disease.

The methods of treatment which are usually applicable in carotid aneurisms are (1) compression below the tumour, (2) proximal ligature, (3) distal ligature. Distal compression is a plan eminently worthy of trial in small aneurisms situated low down in the neck. In such cases as we read of in Wardrop's work, of an aneurism, thought to be carotid, situated so low in the neck as to have a large portion of the common carotid accessible above it, the surgeon ought to test the effect of pressure applied to the distal side of the tumour. It may, perhaps, be right to add direct compression to our list of remedies in carotid aneurisms, since Ciniselli has put on record a case in which this method was used with success. Pressure was made by bandaging a piece of soft sponge over the tumour. This case is quoted at page 290 in the "Biennial Retrospect" for 1867-68 of the New Sydney Society

from the *Annali Universali di Medicina*, 1867. In the same paper Ciniselli refers to a case somewhat similar to his own.

But though we may allow that distal compression or direct pressure may be employed occasionally in cases of carotid aneurism, and that very rarely the opening of the sac may be attempted, it is generally true that the three methods above named are those which as a rule present themselves to the mind of the surgeon. The application of effectual pressure to the carotid artery is by no means an easy task either for the surgeon or the patient. The early application is usually accompanied with unpleasant cerebral symptoms, especially a disposition to faintness; subsequently the severity of the pressure gives rise to suffering from the irritability of the tissues. All this is experienced when the artery is compressed for orbital or cranial aneurism; much more so is it when the presence of a tumour in the neck prevents the surgeon varying the points of pressure.

The pressure may be applied in various ways, instrumental or digital. The latter is on the whole more applicable in the neck than instrumental, although the compressor devised by Mr. Coles possesses many of the advantages of the finger. One important one, however, it lacks—viz., it cannot make pressure in any other direction except backwards against the spine. Now, it has been found that in some cases in which this direct backward pressure has been intolerable a different manœuvre has succeeded. This was so in a case recorded by M. Rouge, of Lausanne. Pressure backwards could not be endured, but the aneurism was cured by five assistants, who took turns in compressing the artery by seizing it between the thumb of the left hand in front and two or three fingers behind it, thus isolating the vessel from the jugular vein and pneumogastric nerve.

LECTURE II.

The Professor, continuing the subject of carotid aneurism, observed that the time occupied in the cure of a large carotid aneurism by interrupted compression is usually considerable. The only case recorded in English practice is that under Mr. Sheppard, of Worcester, reported in the *Medical Times and Gazette*, vol. ii., 1863, p. 463. The patient was a policeman of intelligence, and made pressure with his own thumb for half an hour at a time as often as he could. The aneurism disappeared in five weeks.

The lecturer had met with no case on record, nor heard of any in private, where the rapid method of pressure has been tried in carotid aneurism; yet this treatment would be advisable where the aneurism is of large size and contains clot, and the patient is unable to bear pressure without chloroform. The tendency to affection of the brain from compression would, however, necessitate great caution in watching the symptoms while the patient is narcotized. A case of innominate aneurism, under Mr. Cooper Forster, recorded in the *Guy's Hospital Reports* for 1873, illustrates some of the effects of prolonged compression of the carotid under chloroform. It shows the circumspection which must be enforced in any future attempt to cure carotid aneurism by similar means, though the attempt is worth making, and should be made

in cases of such a nature and size as to render the cure by compression probable, but after persevering trial compression without chloroform cannot be tolerated.

To sum up present experience of this matter: Five successful cases—viz., Sheppard's, Rouge's, Kerr's, Professor Humphry's, and Mr. Gay's—have been mentioned by the lecturer. In all, except Professor Humphry's, the pressure was digital; the only two others were unsuccessful. Thus, of seven cases of compression five were successful, and in the two which failed the ligature failed also. Thus we see that the trial of pressure for the cure of carotid aneurism is a rational measure, attended hitherto with a large proportion of success in the very few cases on record. There remains the question whether this experience affords a sufficiently favourable contrast to the results of other modes of treatment to justify us in adopting compression as the first resort of surgery in carotid aneurism. To answer this question we must turn to the records of the operations on the carotid artery—first, on the proximal side of the tumour; second, on the distal side; and finally, by the old method.

The treatment of carotid aneurism by ligature of the artery was first attempted by Sir A. Cooper in the well-known case which forms the commencement of the *Medico-Chirurgical Transactions*. The operation was performed in 1805, and proved fatal from inflammation of the sac of the aneurism. The preparation was produced from the museum of St. Thomas's Hospital, and is very interesting in itself as one of the landmarks in the progress of surgery. It shows perfectly the mechanism and effects of inflammation of the sac and cellular tissue around it—one of the usual causes of death after ligature of the carotid below the tumour.

This danger attaches more to Anel's operation than to Hunter's. This inflammation is usually regarded as due to the deposit of soft clot in the sac as the consequence of the want of any circulation through it, a point on which Broca has laid much stress. But it seems to Professor Holmes equally probable that the proximity of the wound to the tissue of the sac is the real cause of the frequency of its inflammation. This point is not entirely overlooked by Broca, but he notices it in only a very few words. It forms, in Professor Holmes's opinion, one of the great objections to the ligature of the carotid for aneurism of the artery itself that in a tumour which is at all large no space exists to cut down upon the vessel without great disturbance of the cellular connexions of the aneurismal sac, and much danger of subsequent inflammation.

In Sir Astley Cooper's case the inflamed and enlarged tumour has pressed on the pharynx to such an extent that it only just admits a common bougie, and on the larynx so as almost to close the glottis, and has produced inflammation of the windpipe, with deposit of coagulating lymph on its mucous surface. The coagulum in the sac appears firm enough, and there seems no reason to attribute the extensive inflammation which succeeded the operation to any irritating action of the clot, when so sufficient a cause exists in the dissection which had been carried on in the immediate neighbourhood of the sac. In fact, why should soft clots exercise any irritating effect on the tissue of the sac? We see them constantly in all parts of the body remaining perfectly quiet

for long periods of time and then quickly disappearing. We see aneurismal sacs, when submitted to pressure, remaining soft, with hardly any pulsation, then gradually becoming hard and pulseless, and finally rapidly shrinking. Can there be any doubt that in these cases a great part of the sac has first been filled with soft clot, which has gradually given place to laminated fibrine? Instances of aneurism filled with soft clot after the disease has proved fatal by inflammation are by no means rare in voluminous aneurisms in any part, and especially in the thorax. In watching such cases it has appeared to Professor Holmes that the inflammation has been provoked by accidental causes acting on tissues highly irritable from the pressure of the growing sac; that the pulsation did not begin to slacken till the inflammation had manifestly commenced—in a word, that the coagulation was produced by the inflammation instead of the reverse. The neck especially is a part in which inflammation of the cellular tissue is apt to spread rapidly and to cause great infiltration; so that this traumatic cellulitis after ligature of the carotid soon produces fatal pressure on the parts around.

The fact, anyhow, remains that the ligature of the carotid near the aneurismal sac is very often followed by inflammation of the latter; and in a case of Mr. Vincent's, reported in vol. x. of the *Medico-Chirurgical Transactions*, in which the inflammation commenced unmistakably in the wound, Mr. Vincent distinctly states that the aneurismal sac was contracted around a firm coagulum, and that its internal surface bore no indication of having been inflamed.

Sir A. Cooper's first case was unsuccessful, but the same volume contains his second and successful case. This was the first instance of a completely successful result in carotid aneurism; for though a Swedish surgeon in 1807 (*i.e.*, between Sir Astley's two cases in 1805 and 1808) tied the carotid for a pulsating tumour, the nature of the tumour seems uncertain, and it recurred fifteen years afterwards. In the second case of Sir Astley's, the aneurism was above the bifurcation and situated upon the internal carotid; and it is remarkable that the ligature did not entirely abolish the pulsation of the tumour, though the artery was tied with two threads and divided between them. The man survived the operation thirteen years, and died of apoplexy.

Exactly parallel to this last case is one recorded by the late Mr. Porter in the *Dublin Journal* for 1840. The aneurism was situated on the internal carotid, as was proved by dissection seven years afterwards; and in this case also it was observed that pulsation returned in the tumour four hours after the operation. In a case by Mr. Syme, reported in the *London and Edinburgh Monthly Journal* for November, 1842, of aneurism of the internal carotid, the tumour continued to pulsate after the ligature of the main trunk, though much less forcibly than before. The patient died thirty hours after the operation.

The records of the Hunterian operation for carotid aneurism are to be found chiefly in the works of Dr. Pitz (*Langenbeck's Archives*, vol. ix.), and M. Léon Lefort (*Gazette Hebdom.*, 1868); these contain those of previous investigators, such as Norris, Norman Chevers, Wood, &c.

The former collection contains 87 cases, of which 31 died, which was

unaccounted for. The operation is by no means so free from danger when employed for aneurism as has been represented. The danger does not depend perhaps exclusively, or even principally, upon the operation, but on the condition of the aneurismal artery, and very probably on the condition of brain which often accompanies carotid aneurism. It is a remarkable fact that the operation has only been once fatal out of 34 times in which it has been known to have been practised for epilepsy, headache, and other nervous symptoms, in which in all probability the artery and brain were healthy or not seriously impaired.

M. Lefort's paper is somewhat more critical, and contains less details of cases than the German surgeon's paper. He mentions 53 cases, 35 of these being of the common carotid, 6 of the internal, and 12 of the external carotid and its branches, and he says that out of these 35 cases of aneurism of the common carotid less than half have been really successful. He called attention to the great frequency of suppuration of the sac after ligature; this occurred 8 times, and in 3 was the cause of fatal hæmorrhage. M. Lefort, in fact, can find only 16 cases of recovery after this operation, and in exactly half of these cases there were complications which endangered the patient's life.

What, then, is the inference to be drawn from this picture of the Hunterian operation for aneurism of the common carotid? M. Lefort says that we cannot avoid those dangers which depend on the obliteration of the artery, since this is necessary for the cure of the aneurism; but that the dangers which depends on the suppuration of the sac we can obviate by resorting to the old operation—*i.e.*, after having secured the artery on the proximal side of the sac, incising the tumour, turning out the clot, and tying its distal end. It is clear, however, that the cure by compression does not in the least degree necessitate the obliteration of the artery; and it is to be hoped that surgeons will adopt this plan of treatment more generally, and pursue it more patiently. Sufficient facts, then, prove how great is the danger incurred in tying the common carotid artery on Hunter's or Anel's method for an aneurism involving the trunk of that vessel. This danger increases as the tumour is seated lower on the artery, both because of the greater difficulty of the operation and because of the proximity of the sac to the ligature.

The next point is to consider whether there are any, and if so what, cases in which Wardrop's suggestion of ligature after the manner of Brasdor is admissible. The number of cases in which Brasdor's operation has been performed for aneurisms believed to be of the common carotid artery is eight. The only case, however, in which we have definite anatomical evidence of the existence of an aneurism exactly confined to the carotid, and of its cure by Brasdor's operation, as well as the mechanism by which that cure was brought about, is Lambert's. This case is well known, and is described in Wardrop's work, page 36 and following. The way in which Brasdor's operation cures in cases where no branch intervenes between the aneurism and the ligature is clearly seen from this case. The blood is brought to a standstill in the artery and in the sac, the coagulum in the artery extends into the aneurism, obliterating the mouth of the sac, and finally filling its cavity. This is strictly analogous to the partial cures which are produced in innominate or aortic aneurism by the ligature or by the embolism of the

common carotid, when the coagulum in this vessel extends down into and obliterates that portion of the sac through which the blood-stream used to pass into the carotid.

Lambert's case proves that an aneurism or an aneurismal dilatation of the root of the carotid may be cured by Brasdor's operation. But cases strictly amenable to Brasdor's operation are exceedingly rare, and there seems no prospect of radical cure by this method except in such a case as Lambert's, where the aneurism is limited to the root of the carotid itself, and these are extremely few. No specimen of the kind is to be found in the museums of this city. Nor can such a case be diagnosed with certainty during life from aortic or innominate aneurism. The practical inference is that the distal operation is justifiable in cases in which symptoms are such as to indicate growth of the aneurism upwards along the course of the carotid with increasing pressure on the trachea; but that it must be held to be a very dubious course. And in any such case the effect of distal pressure on the carotid should be carefully noted. If it has no effect on the pulsation of the aneurism, this is a discouraging augury for the success of the distal operation, though it is not absolutely a contra-indication. If, on the other hand, it materially checks the pulsation, an attempt should be made to treat the aneurism by methodical pressure on the upper portion of the carotid.

It remains to speak of the bold operation carried out by Mr. Syme in a case of traumatic aneurism resulting from a stab which had punctured the left carotid so near the clavicle that no pressure could be exercised below it, even after it had been exposed through the opening of the sac. The case is reported in his "Observations in Clinical Surgery," at page 161. It is an interesting practical question whether a somewhat similar operation ought not to be performed in spontaneous aneurism, where the tumour extends so low that the proximal end of the artery can only be tied close to the sac. It is, however, a suggestion which has not been put, as yet, to the test of practice. M. Lefort's reference to such an operation, as having been carried out by a "surgeon of Leeds," cannot be found recorded.

The experience of surgeons hitherto, then, leads to the conclusion that aneurism of the trunk of the carotid artery may be very often treated successfully by compression, and that the cure by compression frequently leaves the artery unobliterated, and exposes the patient to far less risk of cerebral mischief; that the ligature of the carotid for such tumours is extremely dangerous, and ought not to be undertaken until attempts, well devised and perseveringly carried out, have failed to effect the cure by compression; and that when the surgeon has been compelled by the position of the tumour to place his ligature close to the proximal side of the sac, it is worth very grave consideration whether it would not be better to evacuate the tumour, and tie the distal portion of the artery also; finally, that cases do occur in which Brasdor's method holds out a rational hope of cure, but that this operation ought not to be practised except in cases of growing aneurism, where distal pressure checks the pulsation of the tumour, yet has failed to effect a cure.

Now as to aneurisms of the secondary carotids. There are many histories on record of aneurisms of the internal carotid artery; nor are spontaneous aneurisms of the external carotid artery apparently so very

rare. No trustworthy diagnostic sign has been pointed out by which the artery affected can be distinguished with certainty—by which it can be determined whether the aneurism is seated on the internal or external carotid, or one of the branches of the external carotid artery, unless it may be the state of the pulse in the temporal, the affection of which would lead to the conclusion that the aneurism did not affect the internal carotid or not this only. But it is impossible to distinguish between an aneurism seated on the external carotid and one affecting one of its branches below the angle of the jaw. Spontaneous aneurisms of such small arteries as these latter are very rare. Nor is the diagnosis practically important. Aneurisms of the branches of the common carotid, primary or secondary, and situated below the jaw, should be treated by measures directed to the common trunk. The close proximity of the reflux stream from the external carotid in aneurism of the internal carotid artery does not seem to interfere with cure after the Hunterian operation. Without going so far as Broca, and saying that a certain amount of circulation through the tumour tends to harden the clot and promote cure, experience shows that such circulation is not inconsistent with the prospect of cure. In spontaneous cervical aneurism situated on one of the secondary carotids, or on one of the branches of the external carotid, persevering efforts should be made to cure the disease by pressure. If pressure fails, the ligature of the common is to be preferred to that of the external carotid artery for an affection of the latter or one of its branches.

The external carotid has hitherto only been tied for wound, hæmorrhage, erectile or cirroid tumour, for cancer of the tongue or jaw, or as a preliminary to operations. The object of tying the external in preference to the common carotid is the avoidance of cerebral disturbance; so that there seems no motive for preferring the ligature of the internal carotid to that of the trunk. The artery is smaller, truly, but the operation is more difficult, and the ligature is placed nearer the sac.

It is not so certain that the same practice should be followed in traumatic aneurism generally. The prospect of cure by proximal compression or the Hunterian operation depends on the presence of a well-formed sac, which will contract vigorously on its contents when the force of the circulation is removed. If the sac is deficient or thin, and no progress is made by compression, it may be better to treat it after Mr. Syme's fashion.

Aneurisms of the branches of the external carotid in the face or scalp are almost always traumatic. Digital pressure, either on the sac itself or on the artery just above it, will almost always succeed; if not, the sac may be laid open and the two ends of the vessel tied, with a confident hope of success.

Aneurisms of the smaller arteries of the neck, such as that of the transversalis colli, are not common enough to require notice; but traumatic aneurism of the vertebral artery is an affection which is common enough to be important, and which can be usually, or at any rate very often, diagnosed, and which, if confounded with carotid aneurism, is treated by means which tend directly to aggravate the danger.

LECTURE III.

The occurrence of spontaneous aneurism of the vertebral artery in the neck has not as yet been noticed, but traumatic aneurisms of this artery are not so very infrequent, and there are already records of eleven cases in which the carotid artery has been tied, in four for wound, and in seven for traumatic aneurism of the vertebral.

It is worth while to see what were the leading features of these cases, and how such an error could in future be avoided, for undoubtedly the ligation of the carotid in a case of vertebral aneurism must be fraught with double mischief: in the first place it aggravates the disease by throwing the strain of the anastomosing circulation on the vertebral; and in the second place, if the circulation in the wounded vertebral artery is interrupted before the operation of the ligature of the carotid, the stoppage of the blood supply to the brain through the carotid is rendered doubly perilous to the nutrition of that organ.

The Professor referred to a table of the cases of wounds and of traumatic aneurisms of the vertebral artery in which the carotid had been tied by mistake, and he made special reference to the one most fully reported, and which best illustrates the diagnosis. It is a case of traumatic aneurism of the vertebral artery recorded by Lücke in the eighth volume of Langenbeck's *Archives*, in which compression on the carotid diminished, but did not quite stop, the pulsation. As the symptoms persisted after the ligature of the carotid, the aneurism was injected with perchloride of iron. It burst and was laid open, and the bleeding vessel commanded by pressure. The patient died, and it was found that the vertebral artery was wounded between the atlas and occipital bone.

In commenting on this case, Lücke remarks on the error into which he was led by the fact that compression on the carotid checked the aneurismal pulsation. He explains this by supposing that compression on the carotid acted simultaneously on the vertebral, and he points out that this may easily happen if the vertebral enters the foramen of a higher vertebra than usual. Other writers have, however, observed the possibility of checking the pulsation of vertebral aneurism by pressure applied in the same way as for aneurism of the carotid, even in the normal relations of the vertebral artery. Chassaignac, writing on digital compression of the vertebral artery in the "*Des Opérations Chirurgicales*," says: "As the vertebral near its origin lies immediately behind the common carotid, between it and the spinal column, the simultaneous closure of both arteries is inevitable when the pressure is made on the carotid low down, and it is an error to think that very powerful compression is required for this purpose." He then refers to an experiment devised by M. Fraeys, of Ghent, which illustrates the fact that water injected into the aorta will cease to flow from the vertebral if light pressure be made upon the common carotid of the same side in the space extending between two and three inches above the clavicle, and he says: "If pressure is made with the same force on the common carotid above the 'carotid tubercle'—*i.e.*, the anterior tubercle of the transverse process of the sixth cervical vertebra, the space below that tubercle being left free, the jet from the vertebral artery will continue, while that from the internal carotid wholly ceases." He proceeds

to show that the tubercle in question is much higher than is generally supposed, being always from two to three inches above the upper border of the clavicle. The bearing of this fact on the diagnosis between carotid and vertebral aneurism is obvious. The surgeon must, therefore, not conclude that the aneurism affects one of the carotids or some branch of the external carotid until he has seen that pressure stops the pulsation when applied at a higher level than the carotid tubercle, or when applied to the carotid in such a way as to isolate it from the other structures, as M. Rouge did. A traumatic aneurism whose pulsations are unaffected by compression so applied must be regarded and treated as vertebral.

The ligature of the carotid for a wound of the vertebral not followed by aneurism in which the injury was assumed to be of the carotid or one of its branches, is a course still more to be regretted. There are in all regions grave objections to the ligature of a trunk vessel for the wound of a branch if any other course be open, but to tie the carotid artery for a wound of the vertebral has a direct effect in promoting bleeding from the wounded vessel, and the operation is certainly unjustifiable when any doubt exists on this point. However dangerous and difficult the operation may be which is necessary to expose the wounded artery, it is the only one admissible, and if the surgeon thinks it undesirable to hazard its performance, he should at any rate not complicate the case further by tying the carotid.

Lücke comments at great length on the treatment which should be adopted, allowing that the diagnosis of vertebral aneurism has been established. The ligature of the vertebral artery at the root of the neck is a difficult and formidable operation, nor is there any probability that it would check the circulation through the upper portion of the vessel so near its inosculation with its fellow. He argues, therefore, conclusively against any such attempt; and still more is the attempt to tie the subclavian above the origin of the vertebral to be reprobated. But the course which he followed—viz., of repeated injections of perchloride of iron—is not at all to be recommended, for in order that this mode of cure should have any chance of success, it seems necessary that the artery should be commanded both above and below the tumour.

The only case which can be referred to of alleged cure of an aneurism of the vertebral artery is one reported by a surgeon named Möbius, in 1827. The swelling, which increased to the size of four and a half inches by three and a quarter inches, was found suddenly to have become cold, quite hard, and pulseless, after the prolonged application of ice and snow, the patient having obstinately refused to submit to any operation. The tumour, which was of traumatic origin, and caused by a stab over the lower right half of the occipital bone, finally disappeared, and the patient was alive at the time of the report of his case two years afterwards. The cure was produced, in all probability, by the mouth of the sac becoming obliterated by the accidental detachment of a portion of the clot. Bearing this case in mind, we ought to hesitate before proceeding to any extreme measures in traumatic aneurism of the vertebral artery. Professor Holmes does not see what operation can be practised on such a tumour with any hope of success, except that modification of the method of Antylus proposed by Mr. Syme. The effect of compression applied over the lower part of the carotid ought to be carefully noticed,

and if this stops or greatly reduces the pulsation of the tumour there seems no reason why it should not produce a cure, if the patient can tolerate it.

The conclusions, then, to which present experience points on this subject of vertebral aneurism may be thus summed up:—

1. A traumatic aneurism may be taken to be vertebral when it is situated in the course of that vessel, and when its pulsations are not commanded by compression of the lower part of the common carotid.

2. When a traumatic aneurism is situated as above, and its pulsations are commanded, however completely, by pressure on the common carotid low in the neck, it ought not to be treated as carotid or as affecting a branch of the carotid unless it is clearly proved that its pulsations are stopped by pressure applied above the level at which the vertebral ceases to be compressible—*i.e.*, above Chassaignac's "carotid tubercle."

3. An aneurism diagnosed as vertebral may be treated by compression (gradual or rapid, as the case demands) of the root of the vertebral artery in the neck if this is found feasible.

4. If indirect compression will not stop the pulsation, or if it cannot be borne, the tumour should be subjected to direct compression and refrigeration, to which internal remedies may be added, and possibly the subcutaneous injection of ergotine may be of use.

5. If these means fail and the tumour appears likely to burst, or if it have burst, the sac should be opened with all due precaution, and an attempt made to tie or plug the wounded artery.

6. A wound known or suspected to be of the vertebral artery should be treated either by direct pressure or by ligature of the vessel in the wound.

In order to complete the subject of aneurisms of the head and neck, it remains to speak of intracranial aneurism (by which is here meant aneurisms not within the cranium, but within the membranes of the brain) and aneurism of the intracarotid or its branches in the orbit or cavernous sinus.

With regard to intracranial aneurism, we know nothing at present of its diagnosis, so that no treatment can as yet be directed especially to it. And looking at the very free intercommunication of the four large cranial trunks, it would seem unlikely that surgical measures directed to any one of them would do much towards the consolidation of an aneurism. Nor would the consolidation render the patient secure from cerebral symptoms. Yet the question occurs whether the trial may not be worth making, even allowing the prospect of success to be but small, if only the diagnosis could be established. Professor Holmes then referred in detail to two cases—one by Mr. Coe, of Bristol; the other by Professor R. W. Smith—and then went on to observe that, although there is some possibility that a few cases of intracranial aneurism (meaning, thereby, not "within the skullcap," but "within the membranes of the brain") may become subjects of surgical treatment, our information on the subject is at present very limited, and surgical treatment is almost untried.

Of orbital aneurism, on the contrary, we have ample experience, and the surgical treatment of the disease has certainly not been wanting in activity. The most various opinions have been expressed with regard to

the real nature of these aneurisms, or rather of these pulsating tumours, since some of them have not proved to be aneurismal. It is well known that Mr. Travers, who was the first to treat the disease successfully, described it without hesitation as aneurism by anastomosis, and that in this opinion he was followed by all succeeding writers, until Mr. Busk took occasion to expose the numerous points of difference which exist between intra-orbital aneurisms and the undoubted instances of aneurism by anastomosis. He regarded these tumours as true aneurisms of the ophthalmic artery, in which view he was followed by Mr. Curling and Mr. Nunneley. Yet this explanation cannot universally be maintained in the face of the well-known case under Mr. Bowman's care, in which, after death, no disease whatever was found in the arterial system, although the cavernous sinus was filled with coagula extending into the neighbouring sinus and the ophthalmic vein. Accordingly, Mr. Nunneley, in his second paper, states his opinion that "in several of these cases there has not existed any aneurism at all, and in the great majority where there has been aneurism it has been within the cranium, and not in the orbit." And he explained the protrusion of the eye and the pulsation to pressure exercised on the veins of the orbit by an intracranial aneurism, the pulsation of which was transmitted to the fluid in the enlarged veins, and so to the eyeball. Mr. Erichsen goes further, and suggests that in some cases there may be no vascular disease at all, but that "some derangement of the vaso-motive influence of the sympathetic may really occasion the symptoms of increased vascular activity that are so characteristic of this singular disease."

Cases of the spontaneous subsidence of this disease as recorded by Erichsen, Collard, and France, were mentioned. In all of these there was complete recovery from the symptoms of the disease. Other cases of so-called orbital aneurism, in which the symptoms have been proved to depend on arterio-venous communication in the cavernous sinus, were described, especially four cases by Dr. Delens.

LECTURE IV.

Continuing the subject of orbital aneurism, and especially that of arterio-venous aneurism in the cavernous sinus, Mr. Holmes remarked that the cases he had been able to refer to proved beyond any possibility of doubt that a wound or fracture may cause rupture of the internal carotid artery within the cavernous sinus, and that this rupture may be followed by the formation of an arterio-venous aneurism, with consecutive dilatation of the ophthalmic vein; and that this affection is accompanied by all the symptoms usually attributed to orbital aneurism. It is in the highest degree probable, if not certain, that a similar rupture may take place spontaneously. Such cases as one from St. George's Hospital, described in Lecture I., show that a small crack may form in the carotid artery as the result of atheroma, and this may occur as easily in the curve of the internal carotid within the sinus as elsewhere.

The symptoms of many of the published cases certainly appear to lend probability to Dr. Delens' conjecture of their arterio-venous nature, and this explanation readily accounts for the great enlargement of the veins which is frequently present in orbital aneurism; but, on

the other hand, we must admit that Dr. Delens' explanation appears to be refuted by indubitable evidence. Thus, in Mr. Nunneley's report of the post-mortem examination of his second case, he speaks of the tumour as a circumscribed aneurism of the root of the ophthalmic artery. Mr. Bowman's case, reported by Mr. Hulke, is another in which post-mortem examination excludes the idea of any rupture of the carotid artery. Dr. Delens suggests that in this instance, as in some others to which he refers, some minute fissure may have escaped observation; but this, Mr. Hulke asserts, was not the fact; and in another similar case, reported by M. Aubry, Dr. Delens himself is fain to admit that no lesion could possibly have existed in the internal carotid artery, since this vessel was successfully injected so as to fill the ophthalmic artery without any of the injection penetrating into the cavernous sinus.

Common aneurisms situated on the ophthalmic artery and on the internal carotid, both within the cavernous sinus and at its termination in the circle of Willis, have often been recorded, and Professor Holmes has himself described, and preserved in the Museum of St. George's Hospital, an aneurism of the internal carotid in the cavernous sinus, where there is certainly no communication with the venous system. The Museum of the College of Surgeons contains two specimens of a similar nature, showing the internal carotid artery on either side affected by aneurism in the sella turcica.

To sum up, then, our present knowledge of these tumours. Travers' original assumption that orbital aneurism is usually anastomotic has been conclusively refuted. Aneurism by anastomosis sometimes affects the vessels of the orbit, but the symptoms are quite different from those of the disease now in question. It has been also proved beyond denial that some of these aneurisms are of the arterio-venous form, and it is probable that a great number of the successful cases on record were so. But it is equally impossible to deny that in others the aneurism has been of the ordinary circumscribed form. Finally, it is not clear how we can avoid admitting that in some instances the usual aneurismal symptoms have been produced by the pressure of enlarged and consolidated veins upon the arteries of the orbit. The character of the bruit is the main point in the diagnosis of the arterial from the arterio-venous form. A clear, intermittent, blowing murmur can hardly proceed from an arterio-venous communication, which has, on the contrary, a soft, continuous murmur interrupted by the intermittent arterial whiz, and this latter is exaggerated occasionally, according to Dr. Delens, into a piping or whining sound. The difference in the bruit may suffice, then, in some well-marked cases, to exclude the idea of ordinary arterial aneurism.

But the more important question is, whether it is possible to recognise those cases in which no arterial disease whatever exists, and this is much more difficult. There are at least two carefully recorded cases in which all the symptoms of orbital aneurism were present—viz., Bowman's case, recorded by Hulke, and Aubry's case; and on reading over these one does not find one symptom absent which is usually taken as decisive of the pressure of aneurism. In both there were pulsation and bruit, exophthalmos, and the dilatation of the venous system of the

orbit. Another case, in which the post-mortem evidence of arterial lesion was at any rate very unsatisfactory, was under Mr. Berkeley Hill's care. Neither Dr. Ringer nor Mr. Hill could satisfy themselves of the existence of any aneurism.

Mere coagulation of blood in the cavernous sinus without dilatation of the veins of the orbit will not cause the symptoms of orbital aneurism, as Knapp's cases of thrombosis of the cavernous sinus show; nor will mere dilatation of the orbit unaccompanied by coagula in the sinuses. It is possible that we may hereafter learn the diagnosis of these affections, and the more so since the attention of surgeons has been forcibly called to the subject, not only in this country, but in America by Dr. Morton, and in France by MM. Demarquay and Delens; but at present all that we can say is, that the symptoms of orbital aneurism are in some cases exactly imitated by cases in which only the venous system is affected. But this fact, though only a negative one, forms obviously a very powerful motive for caution in undertaking operative treatment.

Another and a very curious feature in these pulsating tumours of the orbit is the occasional transference of the symptoms from one side to the other. Velpeau has made the following remarks in connexion with this subject:—"We have had two patients affected with erectile tumours of the orbit. One of these persons had a tumour in both orbits. He ascribed the origin of these tumours to a blow on the nape of the neck. I hardly see what connexion there could have been between the blow and the existence of the tumours. However this may be, the curious point about this patient was that the compression of the right carotid caused the immediate cessation of the pulsation in the tumour of the left orbit, and that of the left carotid stopped the pulsation in the right orbit. This phenomenon appears inexplicable to me. I tied the right carotid—the left tumour subsided; that on the right side diminished a little, but soon appeared as large as before the ligature, and presented the same characters. I proposed to the patient the ligature of the left carotid, but he would not consent, and left the hospital, having obtained no other benefit than what resulted from the ligature of the right carotid. I saw the patient again a short time ago. The erectile tumour on the left side was perfectly cured, but continued to grow on the right. The thing is hardly explicable, for the carotid has no anastomoses which could account for such a phenomenon."

Mr. Busk and Mr. Curling long ago solved Velpeau's first difficulty—viz., how to account for aneurism, which he called "erectile tumour," in the orbit following on a blow on the head or nape—by referring it to a fracture of the base of the skull traversing the ophthalmic or internal carotid artery; and a case of M. Nélaton's is an interesting anatomical proof of the correctness of their opinion; so that at the present day we are not much surprised to find the disease so often commences after injury. But the transference of the disease from one side to the other—the fact that the pulsation in one orbit is controlled by pressure on the other carotid—is far less easily accounted for. Dr. Delens has invented an ingenious hypothesis to explain this curious fact. He supposes that the right internal carotid was divided inside the cavernous sinus so as to be severed into two parts; that the sinus became

obstructed by coagula separating its posterior from its anterior portions; that the blood-stream from the right internal carotid, thus barred from finding a passage into the right orbit, made its way through the anastomosing sinuses (circular and transverse) into the left cavernous sinus, producing the usual symptoms of arterio-venous communication there, while the anastomoses between the left and right arteries brought back the blood into the anterior part of the right cavernous sinus, and thus occasioned the symptoms of arterio-venous aneurism in the right orbit. This idea is certainly in harmony with many of the facts of the case: it explains why the disease was less marked on the left side than on the right, since the anastomoses of the sinuses are less direct and less dilatable than those of the arteries; why the symptoms in the left orbit were under the direct control of the circulation in the right artery and *vice versâ*. But to Professor Holmes this hypothesis is a little too elaborate, and he is not sure that all the symptoms may not depend on the mere fact of the clot having extended from the sinus of one side to that of the other through the circular and transverse sinuses.

There are other cases besides Velpeau's in which the crossing of the symptoms has been noticed. Such cases harmonize with the general conclusion to be drawn from published records of the more ordinary cases of orbital aneurism, so far as to show that many of the phenomena of the so-called "aneurism" must be due, not to any arterial disease, but to some lesion or some unnatural condition of the venous channel of the cavernous sinus, which unnatural condition has in the instances last quoted extended to the opposite side from that on which it originated.

This examination of the pathology and of the various theories which have been adopted as to the nature of this remarkable disease is a necessary prelude to the consideration of its surgical treatment. If we admit that the symptoms may be caused by coagula in the sinus pressing upon the artery without any disease of the latter, surely we ought to do all in our power to avoid so serious an operation as the ligature of the common carotid. If we admit, with Mr. Erichsen, that the disease may probably enough disappear spontaneously, the same conclusion is irresistible.

If we agree in Dr. Delens' teaching, that a very large proportion of these cases are arterio-venous, we know that the ligature of the vascular trunk at a distance from the opening in the artery is a very uncertain remedy in arterio-venous aneurisms. We know also from the experience of arterio-venous communications in the neck and elsewhere that this injury does not necessarily involve any fatal symptoms. After attaining a certain extent many such cases have remained stationary for an indefinite period. If even we could adopt the old idea, that the tumour was due to a cirroid dilatation of the arteries of the orbit, we know how nugatory the ligature of the trunk vessel usually proves in that disease.

Finally, if we adopt the opinion of Mr. Busk, Mr. Curling, and Mr. Nunneley—which is the prevalent opinion at present,—that these tumours are of the nature of true aneurisms of the ophthalmic or internal carotid, we should reasonably expect success by milder methods than the ligature in a tumour so small as this must be, and in a disease

the symptoms of which are confessedly due more to dilatation of the veins than to arterial lesion. The records of practice speak plainly to the same effect.

It is quite true that by statistics the operation of tying the carotid for orbital aneurism is made to appear a very successful operation, but this method of viewing the subject can hardly be employed either for or against the treatment until we know the natural progress of the disease, and the results of other kinds of treatment. As to the natural progress of the disease, though certain cases prove that there is no occasion for hurry, and that a natural cure is not impossible, the same cannot be affirmed generally. If the exophthalmos is rapidly increasing, the loss of motion of the eyeball advancing so as to threaten disintegration of the nerves traversing the cavernous sinus, and the loss of sight testifying to pressure on or stretching of the optic nerve, no good surgeon would probably refrain from active treatment. But then compression of the artery, either digital or instrumental, undoubtedly deserves trial before a patient is exposed to the danger to life which the ligature of the carotid involves. Cases of successful compression of the carotid in this affection have been recorded by Gioppi and Scaramazza, and of direct compression by C. Freeman.

Another method which has been practised twice in three cases, and twice at least with success, and which deserves renewed trial, is the injection of coagulating fluid into the tumour. These cases afford much encouragement for the repetition of the practice in appropriate cases—*i.e.*, cases in which the venous tumour is large, fully developed, and growing, and where the compression of the carotid has failed after a full trial. The other local measure which has been tried is electro-puncture; of this only two instances are on record, in one of which it failed, and in the other it proved fatal.

The recorded experience of milder modes of treatment justifies the conclusion that the ligature of the carotid should never be used in so-called orbital aneurisms until after a patient trial of the less dangerous measures. But when these have failed, and the disease is advancing, we are justified in employing the ligature, and that, too, although on the one hand the disease has not been observed to run on to a fatal termination, while several patients have recovered spontaneously, and on the other, the ligature of the carotid has by no means universally exercised a curative effect.

Some surgeons, as Demarquay, prefer the ligature of the internal to that of the common carotid, but there seems no good reason for this preference, nor is there any objection to tying the external along with the common carotid.

In connexion with carotid aneurism, and especially in connexion with orbital aneurism, it is worth while to mention cases of arterio-venous communication in the neck between the carotid arteries and the veins lying in contiguity with them or in their neighbourhood. We shall find—a fact which is not very easy of explanation—that the existence of a traumatic arterio-venous aneurism in the neck is very often harmless, and, as far as published cases enable us to judge, does not usually prove fatal if left alone.

As regards the surgical treatment, it is useless and improper to inter-

fere in those cases of arterio-venous aneurisms in the neck where there are no dangerous symptoms; but in others the gradual advance of the symptoms points strongly to the necessity for some interference, if possible, before it is too late to save the patient's intellect or life. In these instances, if the foreign body which caused the wound is lodged, an incision must be made down upon the tumour, the circulation being controlled below, and if possible, above also, the tumour opened, the foreign body removed, and the artery and vein tied. Where there is no evident lodgment of the foreign body it is possible that the combination of direct with indirect pressure might be successfully employed which Vanzetti has introduced in the treatment of varicose aneurism of the brachial artery. If the venous thrill and murmur could be suppressed by direct pressure on the tumour it would be a proof that the venous orifice was controlled, and in that case simultaneous compression of the lower part of the artery might be trusted to complete the cure.

LECTURE V.

Aneurism in the axilla is not perhaps quite so rare as in the neck—a result probably of the comparative frequency of wounds and injuries of this region. But the connexion of the artery with the capsule of the shoulder-joint is by no means so direct as is that of the popliteal with the capsule of the knee. Consequently the sprains and injuries so common in the neighbourhood of the shoulder less often affect the axillary than those of the knee do the popliteal artery. In speaking of axillary aneurism, Professor Holmes adopted the same plan of treatment as with carotid aneurism—*i.e.*, he first referred to the preparations in the museum of the College, and then showed some diagrams of those forms of this aneurism which he considered characteristic, and which illustrated his view of its surgical treatment. Thus a preparation (No. 1694) was produced as a typical example of the normal relations of the disease, showing the close connexion of the sac with the nerves of the plexus, and the great branches which leave the artery close to the sac. This preparation showed likewise the curability of the disease even under unfavourable conditions; extensive disease of the heart existed, yet the aneurism is compactly filled with laminated coagula. The second preparation produced (No. 1695) showed the enormous size to which this aneurism grows. The whole axilla was filled, and there was a large sausage-shaped pouch running down the arm, and due no doubt to a partial rupture at some previous period. In this case the artery was originally tied with two ligatures by Mr. Liston, and the case is reported, and figured in the *Edinburgh Medical and Surgical Journal* for 1827. Three other preparations exist in the museum (No. 1696 and No. 1694 A and B); these illustrate the tendency of axillary aneurisms to occur as popliteal aneurism pretty often does, on both sides of the body. Such preparations as these, which constitute the whole series of axillary aneurisms contained in the museum of the College, are characteristic and valuable, because they demonstrate most of the debatable points in the surgical treatment of this disease.

President Holmes commenced the discussion of the surgical treatment of these aneurisms by exhibiting four diagrams which illustrate forms of this disease curable by different surgical proceedings. In such

a case as Liston's (No. 1695), already referred to—where the enormous tumour extends into the subscapular fossa, the sac has given way at one point, and the walls of the great sac are incorporated with the muscles of the axilla, having the axillary plexus of nerves and the axillary vein lost in its substance—there is practically no hope of saving life by the Hunterian method. Cure by compression is out of the question. The operation recommended by Mr. Syme could not have been performed, for though the upper end of the artery might by possibility have been tied, the lower end of the vessel seems to have been separated by an interval of many inches instead of being close to the upper, as Mr. Syme leads us to expect, and could not have been found. The size and shape of the sac, too, would have rendered its obliteration by a process of suppuration fatal to the patient. There would besides have been the risk of bleeding from arteries opening into the tumour.

For such cases as these no remedy remains except amputation at the shoulder-joint. After the subclavian artery had been secured, the limb might have been amputated, and the remains of the sac could then have been easily cleared out of the subscapular fossa—a desperate operation, it is true, but one from which recovery would not have been hopeless. The tied end of the vessel would have been far less likely to be the seat of secondary hæmorrhage after the removal of all the parts below it than when tied in its continuity. In such cases as this, then, no minor operation holds out any hope of benefit. If the surgeon is not prepared to adopt the extreme and most hazardous measure of removing the limb, he should allow his patient to die a natural death. On the other hand, the cases most probably amenable to the ligature of the subclavian are, like one produced from Guy's Hospital, in which the tumour is of large size, and the artery has a free entrance and exit at either end of the sausage-shaped sac; a great branch arises from the artery just as it enters, and two others just as it leaves the sac, and the brachial plexus of nerves envelopes the tumour on all sides. Compression would probably have failed, not so much on account of the size of the tumour as on account of the free anastomoses by which the circulation would have been constantly carried on. The relations of the sac would have made an attempt to lay it open, as Mr. Syme proposed, exceedingly hazardous, and in all probability fatal from lesion of the nerves, from the necessary ligature of the collaterals, and from the too probable injury to the vein. But there seems a very fair prospect that the arrest of the main stream of blood by ligature of the subclavian might have been sufficient to effect a cure. In many such recorded cases, though the aneurism has retained some pulsation for a time—in consequence, no doubt, of the large branches opening into it—yet coagulation has gradually advanced and has finally been completed. Another of Mr. Liston's preparations, preserved in the museum of University College, affords an illustration of the kind of case in which it is not impossible that an enterprising surgeon might carry out the operation described by Mr. Syme, although not without much risk of injury from the proximity and the uncertain position of the vein and nerves. It is a specimen in which there is that relation between the vessel and the sac which Mr. Syme described as universal, but which

Mr. Holmes has shown to be exceptional. The last illustration is a diagrammatical representation following closely on the model of Mr. Gay's preparation (No. 1694 A), it is intended to show the usual conditions or relations of an elongated or fusiform aneurism in the axilla, and if compared with a preparation of axillary aneurism seven years after it was cured by compression, it will be found to correspond in all essential particulars with the state of things there shown. The conditions here represented render it desirable to avoid, if it be possible, the ligature of the subclavian artery; both because the situation of the ligature must always be dangerously near the aneurism, and the possibility of curing these moderate-sized aneurisms in the axilla by compression can be amply proved by cases.

Hitherto—in this country at least—the treatment of axillary aneurisms has been almost uniform, nearly every case having been treated by the ligature of the third part of the subclavian artery. We have had very little experience of the compression, or indeed of any other of the substitutes for the Hunterian ligature.

Mr. Erichsen, in writing only last year, thus sums up, and Professor Holmes thinks very fairly, the views of surgeons on this subject:—“Digital compression might be advantageously used, but compression by instruments on the cardiac side can seldom be made applicable to aneurisms in this situation, inasmuch as the pressure that is brought to bear upon the subclavian must necessarily at the same time influence the greater part of the brachial plexus of nerves to such an extent as to be unendurable to the patient. Yet it is not impracticable, and means might be devised to overcome this difficulty. Ligature of the artery is still the surgeon's chief resource in the treatment of these cases.”

Daily experience, however, proves how very dangerous a resource ligature of the subclavian is in axillary aneurism. The earlier statistical tables of Norris and Porter show that nearly half of the cases in which the subclavian artery has been tied in its third portion for aneurism have died, and the more recent researches of Koch go to prove the same. Out of ninety-four cases where this artery has been tied for aneurism in the axilla not extending above the first rib, and, therefore, permitting the ligature of the subclavian in its third part, fifty-one have recovered and forty-three have died. Thus, almost as many cases of axillary aneurism which have been operated on by ligature of the subclavian have died from the operation as have survived; and there can be but little doubt that a good many of those who have survived the operation have not survived very long.

The dangers of the operation on the subclavian artery for axillary aneurism increase, as those of ligature of the common carotid for carotid aneurisms do, the nearer the ligature has to be laid to the aneurismal sac; and several of the preparations on the table prove that in these cases the ligature is often in contact with the aneurism. Besides the risk of inflammation and suppuration under these circumstances, there is (as proved by a case of Sir W. Fergusson's) another danger; for the sac, even though not wounded in the operation, may give way from the loss of support due to the proximity of the wound to its tissue.

The Professor produced several preparations from different museums

which showed how frequently the operation proves fatal from other causes (pyæmia, plugging of great veins from inflammation going on around them, hæmorrhage from diseased arteries, &c.), even when all is going on well with the aneurismal sac and its contents; and, lastly, he drew attention to the fact that hidden dangers beset the path of the operator, even in cases which present no apparent risk beyond the common. Thus, in one of the preparations from the Irish College of Surgeons there was seen a diverticulum from the aneurismal sac, the existence of which was not suspected during life, but which (as Professor Porter says in his account of the case) must necessarily have been wounded had any attempt been made to tie the artery as it passes over the first rib. Thus, by statistics, histories of cases, and preparations, the danger of ligature of the subclavian are sufficiently illustrated. Still these dangers are no argument against the employment of the ligature if no safer means of treatment exist. But as there are cases of the most unpromising character which have been successfully treated without resort to so dangerous an operation, we must inquire under what conditions it is possible to treat axillary aneurisms without operation; and when, on the contrary, we should feel justified in exposing a patient to all the dangers of the Hunterian or Anel's ligature; and further, in what cases it may be justifiable to cut into the axilla and seek for the two ends of the artery, or to remove the limb altogether. Allusion must also be made to modes of treatment which are applied directly to the tumour itself—viz., manipulation, galvano-puncture, and coagulating injection.

Notwithstanding the admitted fatality of Hunter's or Anel's operation on the subclavian, English surgeons have not as yet made any very serious attempts to treat aneurisms of this kind by milder methods. Fischer, in an elaborate paper, has collected all the published cases which he could find, in which digital compression had been used with or without success in the treatment of various forms of aneurism.

The number of cases of axillary aneurism he alludes to which have been so treated are only two, and the compression was in both cases unsuccessful.

Compression of the subclavian artery in axillary aneurism is as old as the time of Desault, whose attempt is related in Broca's work. The patient did not give the treatment a fair chance: being frightened, he left the hospital and placed himself under Ferraud, at the Hôtel-Dieu, who, mistaking the aneurism for an abscess, opened it, and the patient died at once of hæmorrhage. Another unsuccessful trial of pressure in this form of aneurism is also referred to by Broca, who, however, gives it as his opinion that axillary aneurism is not suitable for compression at all.

It may be doubted whether digital pressure is so applicable in this form of aneurism as instrumental, or that combination of the two which consists in the application of manual pressure by means of some pad such as that designed by Mr. Coles; for the artery lies at so great a depth that the fingers soon get weary, and the pressure is liable to become unsteady, being both uncertain in its direction and also varying in its force—i.e., both insufficient and painful.

Out of ten cases of axillary aneurism—contained in the table alluded

to in the first lecture, of 337 cases surgically treated in our British hospitals—three of them were submitted to compression: in one with perfect success. In a second case the patient was at the extreme age of seventy-eight years, and died during his stay in hospital apparently from natural decay; only direct pressure by pad and bandage was used. In the third case pressure was tried, but could not be borne by the patient; then an attempt was made to tie the subclavian, but by mistake the posterior scapular artery, which was unusually large and came off from the third part of the subclavian, was taken up instead. The patient died two days afterwards. The first of these cases is of much interest, as being the only one in which the cure of axillary aneurism by compression has been effected in one of our large metropolitan hospitals. It occurred last year at Guy's Hospital, under Mr. Cooper Forster's care, and is published in the Guy's Hospital Reports for 1873.

A case which was recently under the care of Professor Rizzoli, of Bologna, proves that an axillary aneurism—even of the most formidable kind—accompanied with degeneration of the subclavian artery to such a degree as must have precluded the prospect of successful ligature of that vessel—may nevertheless be cured by pressure. Rizzoli terminates his account of this case by saying—"I hope the cure of this case by compression may help to moderate the impatience of those surgeons who, discouraged by the first unsuccessful trials of compression, with reprehensible haste resort too quickly to the ligature of great arteries, exposing their patients thereby to the grave dangers which frequently follow on such operations, however skilfully performed, and even after the most approved method of operating." Rizzoli also refers to two other cases—one related by Ciniselli, to which brief reference is made in the New Sydenham Society's Biennial Retrospect for 1867 and 1868, and of which a full account is to be found in "*Bulletins delle Scienze Mediche di Bologna*;" and the other is a case of Dutoit's.

These cases are of great value, as showing that there are instances of every kind of axillary aneurism which are amenable to the cure by compression. Rizzoli's case was depending upon spontaneous disease of the artery; Ciniselli's, a distinctly traumatic aneurism, the artery being almost certainly healthy; Dutoit's, of that mixed or uncertain kind occurring after an accident, but in which it is always a matter of doubt whether the artery will not be found more or less diseased; Cooper Forster's was somewhat of the same nature—*i.e.*, one in which the cause of the disease is uncertain, but its rapid increase renders it most probable that the artery is extensively diseased.

These cases prove further that the cure may be effected either by digital or instrumental pressure. They show the feasibility in many cases of digital pressure, and also that it may be borne for a considerable period without producing unbearable pain or any loss of function from injury to nerves.

The facility with which the subclavian artery can be compressed, and the ease with which it can be separated from the nerves of the brachial plexus, so as to be compressed without much pain, vary very much in different persons. In some, where the artery rises high in the neck, there is no difficulty in stopping the pulse with moderate pressure of a single finger, and the patient will not complain of much inconvenience

when this is done. In others the pressure has to be directed almost under the clavicle; too great force is required to be efficiently maintained for any length of time, and this gives so much pain as to induce the patient speedily to beg for its cessation.

Then arises the question, If pressure on the subclavian be too painful to be endured without an anæsthetic, cannot it be successfully employed under anæsthesia? Professor Holmes can see no objection to the use of total compression under chloroform in the case of the subclavian artery, except the difficulty of making a proper instrument. It is true there may be some risk of contusing the nerves of the brachial plexus by prolonged pressure; but this risk is so trifling in a disease so dangerous as axillary aneurism, and is so very small in comparison with the dangers of the ligature, that it seems quite justifiable to make the attempt. It must be left to future experience to decide in how large a proportion of cases success may be hoped for, and whether the attempt is worth persevering in. But the complete success obtained in Mr. C. Forster's case is a most powerful encouragement to renew it.

LECTURE VI.

Continuing the subject of the treatment of axillary aneurism, Professor Holmes remarked, that although he had dwelt on the possibility of the cure of this disease by compression, and had urged its trial in the place of the ligature of the subclavian, he would not have it supposed that the treatment is one to be lightly undertaken or easy to carry out. Experience has proved that there are cases in which intermitting or rapid pressure may be successfully employed, but can we distinguish such cases? or ought the surgeon always to commence treatment by a trial of pressure? The latter would be an improvement on the indiscriminate resort to the ligature, but Mr. Holmes is not certain that indications may not be found for selecting those cases in which pressure gives most promise of success, or in which it is most desirable to reject that treatment. In the first place, there are some cases usually classed as axillary aneurism, but which may be more accurately described as rupture of the axillary artery, on which, as far as present experience goes, pressure has but little chance of succeeding. In these the essential features of aneurism—viz., a sac capable of contracting on the coagulating blood—is wanting, and without the assistance of this contraction not even the ligature of the artery above can be trusted to succeed, still less the certainly feeble influence of indirect compression. The Professor thinks that in cases where there is good reason to believe that an artery has been ruptured and no complete sac has formed, the old operation, if practicable, should always be preferred; and he referred to a very interesting paper by Dr. Liddell in the *American Journal*, January, 1864, in which the author describes a case of traumatic aneurism from gunshot, and concludes (without having at that time seen Mr. Syme's writings) that in many such cases the old operation is to be preferred.

Again, there are cases of axillary aneurism in which the tumour—or, as Professor Spence thinks, the action of the nerves irritated by the tumour—has raised the clavicle so much that compression of the subclavian is rendered doubly difficult. In such instances the ligature of that artery is also an operation of much difficulty and danger, and the

surgeon, before attempting it, should maturely weigh the other plans which have been proposed for the treatment of such aneurisms—viz., electro-puncture, coagulating injection, manipulation, and the old operation as practised by Mr. Syme. They may be taken, perhaps, in that order. Electro-puncture is, Professor Holmes thinks, on the whole, the least dangerous. The injection of perchloride of iron will usually be prohibited by the impossibility under these circumstances of suspending the circulation, though, if the elevation of the clavicle is not extreme, it may be possible to compress the artery for the short time requisite for this purpose, and it then holds out a more definite prospect of cure than galvano-puncture. Manipulation can only be expected to succeed when the sac is of rather small size and contains some clot already. But then a tumour of this kind can only under exceptional circumstances so elevate the clavicle as to preclude the more ordinary methods of treatment.

The use of electricity in the treatment of aneurism has up to the present time been reserved almost exclusively for the treatment of internal aneurisms; and very properly—since, whatever may be the future prospects of electrolysis, we do not as yet know enough of its effects on the blood of an aneurism to enable us to predict what will be its results in any given case with any approach to certainty, and for external aneurisms we possess means far more uniform in their action, and far more successful.

That manipulation might be successfully practised in axillary aneurism Professor Holmes does not doubt, though it seems to him that the effects of this method of treatment are too uncertain to render it likely ever to come much into use in a form of aneurism like the axillary, where the artery leading to the tumour is usually fairly accessible. Yet, if pressure has been tried in a case and failed, if the condition of the patient or of the artery renders the surgeon unwilling to risk the operation of ligature, and if there is evidence of the presence of a good deal of clot in the sac, in such a case there would be a fair opportunity for attempting to dislodge a portion of this clot and push it into the distal opening of the sac.

The surgeon's object in manipulation is to produce the same effect designedly as occurred accidentally in two cases referred to by the lecturer—viz., one by Beck, of spontaneous cure of axillary aneurism by the impaction of clot; and the other a similar case related by Poland, in which spontaneous cure by impaction occurred under the use of a compressing bandage. But much more experience of the manipulation-treatment is necessary before we can say what the chance of success may be.

Finally, there is the bold proposal of Mr. Syme of reviving the old operation. If the tumour extends so high that pressure cannot be used, and whilst its size prevents the use of manipulation and galvanism, or coagulating injections are either contraindicated or have been tried in vain, the choice of the surgeon must be between the ligature of the subclavian and the old operation. The former is very fatal under these circumstances; the latter is as yet untried, except in cases of ruptured artery, such as those operated on by Paget, Syme, Callender, and others. The form of the sac and its exact relations to the vein and

nerves become now matters of the most vital importance. Besides the great dangers which beset the old operation in every part of the body—viz., disease of the arterial coats where the ligature is applied, and of discovering the lower end of the vessel—there are two dangers special to the operation in this particular situation, one resulting from the close connexion between the brachial plexus and the sac, and the other from the very large relative size of the branches of the axillary artery. The many risks of this operation should therefore lead to its use being restricted to some exceptional cases such as have been specified; and any surgeon who chooses to resort to it must have made up his mind to an operation involving difficulties which he has no means of foreseeing. He cannot tell where the opening of the artery will be found, nor what part may be in contact with the tumour he is going to lay open, nor what branches he may have to tie besides the trunk. He must make all necessary preparations for amputation in case it should prove necessary; and a preliminary incision above the clavicle, through which the subclavian can be immediately secured in this latter event, is a precaution which should never be neglected.

The facts brought forward in reference to axillary aneurism, Professor Holmes thinks, are sufficient to establish the following propositions:—

1. That there are a great number of these aneurisms, both traumatic and spontaneous, which are amenable to gradual intermitting pressure, when carefully applied to the artery above the tumour.

2. That in cases where this is not possible, from the pain which the patient experiences on pressure, the application of rapid total compression under anæsthesia may effect a cure.

3. That the ligature of the subclavian artery is so dangerous an operation, both from its own risks and from the proximity of the sac, that it ought to be restricted to cases where pressure has failed, and to those in which, from the size and rapid growth of the axillary tumour, the surgeon thinks pressure inadvisable.

4. That the old operation is to be preferred to the ligature of the subclavian in cases of ruptured artery, and that it may be practised in cases where, from the elevation of the shoulder, or from the extent of the tumour, the surgeon would find it difficult to tie the subclavian, or fears in doing so to injure the sac; but that the anatomical relations of axillary aneurism render this a peculiarly hazardous proceeding, and the surgeon should always be prepared to amputate if necessary.

5. That in very large axillary aneurisms, if any treatment be adopted, the arm should be amputated at the joint after ligature of the subclavian.

Aneurisms occurring below the axilla may be divided into arterial aneurisms of the brachial artery, arterio-venous aneurisms at the bend of the elbow, and aneurisms of the arteries of the forearm and hand.

Arterial aneurisms of the brachial artery are almost always the result of wounds. Yet cases of spontaneous aneurism of this artery are on record. Mr. Birkett gives one such case in the *Guy's Hospital Reports* for 1862. Another and a very interesting case, recorded by Kade, was referred to by the lecturer; and references are given by Fischer to three other cases of spontaneous brachial aneurism; and if the three cases by Pelletan, Liston, and Spanton, another reported in the *Gazette*

des Hôpitaux, 1860, p. 770, and a second case by Mr. Birkett since the publication of his first case, are added to these, we have all the cases of spontaneous aneurism of the brachial artery of which the Professor had been able to obtain any knowledge. Spontaneous aneurism of the brachial artery is therefore a very rare disease, and when it occurs it is generally significant of disease of the heart, and is the effect probably of the lodgment of an embolic clot in a weakened artery. Much care should be bestowed on the examination of such a case, and its treatment should obviously not be too active. If cardiac disease or extensive arterial degeneration exists, the patient's life cannot be prolonged, and he is a very bad subject for the ligature; nor is the disease usually in itself so formidable as to justify the risk. So that persevering attempts at pressure should be made (digital by preference), and the artery is so accessible that they will in all probability succeed.

Traumatic brachial aneurism is still more under the influence of compression. Fischer's table contains references to fifteen cases which seem to have been merely arterial—*i.e.*, in which there is no mention of any injury to a vein. Digital compression was successfully used in twelve of these cases; in a thirteenth direct pressure effected a cure; in the fourteenth case the brachial artery was tied, but the patient died from erysipelas; in the remaining case digital pressure failed, but no further treatment is recorded. In these aneurisms, if compression fails, it may be a question whether the old operation is not better than the Hunterian ligature, for the sac is often imperfect, and coagulation consequently either very slow or altogether deficient.

The arterio-venous aneurisms at the bend of the elbow, the result of unskilful bleeding, are now very rare in this country.

The treatment, when any was adopted, before the introduction of digital pressure, consisted usually in the incision of the sac and the ligature of the arterial orifices. Instrumental pressure did occasionally succeed, but not very often, on account of the venous congestion which it caused, and the Hunterian ligature was justly discredited. Such cases as that of Sir C. Bell, of which the preparation was produced, where he tied the artery above the tumour, and the patient died of gangrene, show both the inefficacy and the dangers of tying the artery at a distance from the sac, while the old operation is not very dangerous, and is indubitably curative.

Digital pressure, however, even applied only to the artery above, has frequently effected a cure. Fischer's tables give twelve cases, nine of which were successfully treated by digital compression. In some of these nine cases the pressure was applied to the artery only, but in at least four of them digital compression was applied both directly to the venous orifice of the aneurism and indirectly to the artery leading to it.

The lecturer here referred to a diagram representing the method employed by Vanzetti. The artery and vein are seen communicating on either side with a sac, and Vanzetti had noticed that slight pressure on the apex of the sac stopped the continuous venous murmur. A finger is represented in the diagram at this point obstructing the entrance of the venous current into the sac, thus placing the tumour for the time under the same conditions as a common aneurism. Pressure is then made by another finger on some convenient part of the artery above.

Knowing as we now do the efficacy of direct pressure thus applied in conjunction with indirect compression of the artery for the cure of varicose aneurism, it may be worth while to treat cases of aneurismal varix by the prolonged application of that slight amount of pressure which would probably suffice in many of them to close the venous orifice. Allowing that in many of these cases the symptoms are not urgent, still the disease is worth curing if it can be done without danger.

Lastly, we have aneurisms below the bend of the elbow. These are usually traumatic, and therefore, as a rule, affect the most superficial parts of the vessels and those most exposed to injury, the radial and ulnar near the wrist or the palmar arch. But spontaneous aneurism of the arteries of the forearm is by no means so rare as used to be thought. It usually depends either on diseased heart or is a symptom of extensive disease of the arteries. In either case the patient's general condition is of far more importance than the local mischief. On the subject of spontaneous aneurisms occurring below the axilla an interesting paper will be found in the *Medical Times and Gazette* for 1865, vol. i. p. 567, by Mr. D. Spanton. He discovered records of four cases of spontaneous aneurism of the arteries of the forearm, and, upon inquiries at forty-one of the principal metropolitan and provincial hospitals, he was able to learn of only three other cases. Out of eleven cases of aneurism of the forearm disease of the heart was proved to exist in five, and was suspected in a sixth. Compression was tried in three of these eleven cases, but with no benefit. Apart from the concomitant disease of the heart or great vessels, these aneurisms are easily curable. Even in the presence of such disease they are very frequently treated with success. Traumatic aneurisms, as well as spontaneous aneurisms, of the forearm and hand are also very often curable by compression, although this treatment also often fails. This depends mainly on the formation of the sac. If the sac is completely formed of stout resilient tissues, compression is likely to succeed. If, on the other hand, there is a weak, flaccid tumour which collapses a little but does not disappear when the pulsation is stopped, leaving an ill-defined bag of fluid blood, the probability is that pressure will fail. If the patient were nervous and irritable, likely to be depressed by failure, and sensitive to the pains of pressure, it would be better to perform the radical operation at once. There is this advantage in the application of pressure to aneurism of the upper extremity which the method does not possess in its application to the lower limb—viz., that it does not necessitate confinement to bed, but the patient can all the while enjoy the benefit of fresh air and exercise. The list of 337 cases of aneurism tabulated by Professor Holmes contains thirteen below the bend of the elbow; seven of these are said to have been traumatic, and an eighth (an aneurism of the palmar arch) probably was so; it was cured by direct pressure.

Indirect pressure was tried in three of the seven cases, and in two with success. In the case where pressure failed, and in three others, the clots were turned out of the tumour and both ends of the artery tied, and in all instances with success. In the remaining case—one of ulnar traumatic aneurism—it is merely noted that the ulnar artery was successfully tied. There was a ninth case, in which an aneurism of the palmar arch had been cut into before the patient's admission into hospital, and where the hæmorrhage proved fatal.

There remain four cases of spontaneous aneurism, one of the radial, and three of the ulnar artery. Digital compression was used successfully in one case; the brachial was tied successfully in two; and in the remaining case compression of the brachial failed, but, as the man was near his death from aneurism of the aorta, nothing further was done, and he died a month afterwards.

In Fischer's tables are references to thirteen cases in which digital compression has been employed, none of them being comprised in Prof. Holmes's list. One of these was a spontaneous aneurism of the ulnar in a patient with diseased heart, and one a spontaneous aneurism of the radial, with no note as to any concomitant disease. In the former compression failed, and nothing further was done; in the latter it succeeded. Of six cases of traumatic aneurism of the radial and five of the palmar arch all but two were cured by compression. In one of these two cases the injection of perchloride of iron, and in the other the ligature, effected a cure.

It will be seen from this account that in traumatic aneurism of the arteries of the forearm there is good prospect of cure by digital pressure. When this has failed, Professor Holmes would always be in favour of the ligature of both ends of the vessel, not being aware of any case in which it has failed. They have, it is true, been treated with success in various other ways—by the injection of perchloride of iron, by the action of chloride of zinc, and by galvano-puncture. It is even possible that cures may have been effected by the Hunterian operation. But all these methods are, to say the least, quite as dangerous as the simple incision of the sac, and far more uncertain; so that there seems no reason for submitting the patient to any such experimental surgery. In those cases of spontaneous aneurisms in which, after the failure of compression, the surgeon wishes to proceed further, the brachial artery, the Professor considers, should be tied. But it must be remembered that many of these tumours seem to be of embolic origin, and it is the opinion of many good pathologists that such aneurisms are slow to rupture. It is only, then, in case of rapid growth of the aneurism, or some exceptional condition, such as pain from the neighbourhood of a nerve, that any such operation should be contemplated.

ART. 122.—*A Mode of Using a Three-pad Tourniquet in the Treatment of Aneurism.*

By E. LUND, F.R.C.S., Manchester.

(*British Medical Journal*, August 30.)

The tourniquet employed was that known as Signoroni's, with a pad from the centre of the arch, so attached that it could be moved to and fro by a screw-action. The instrument was applied in the usual way over the artery, and such pressure made as would not arrest entirely the force of the pulsations. The extra pad was then brought into action, so as to press against the external side of the limb, and drag the tourniquet transversely across it. This had the effect of so displacing the vessel

and the tissues surrounding it, that the artery was made to assume a curvilinear in place of a straight direction; and by this means the circulation could be completely stopped with less actual compression of the skin and other structures.

ART. 123.—*On Tertiary Syphilis and Syphilitic Cachexia.**

By S. A. LANE, F.R.C.S., Consulting Surgeon to St. Mary's Hospital, and to the London Lock Hospital.

(*The Lancet*, July 26.)

Mr. Lane commenced his lecture by stating that both in consultation with other surgeons, and at the College examinations, he was much struck with the unsettled state of opinion on the diagnosis and treatment of tertiary syphilis. The principal difficulty seemed to be in deciding whether any particular case under notice should be classed with the secondary or tertiary group of symptoms, and, again, whether iodine or mercury should be the remedy to be relied upon. Some, he found, considered it immaterial which of these remedies were administered, while others would prescribe them in combination, or in alternation with each other. He considered it so essential that clear and distinct notions should be held upon these points, that he had placed before them two tables in which the tertiary and secondary affections were respectively grouped, and their appropriate remedies mentioned. Each group was also illustrated by numerous drawings taken from patients in the Lock Hospital.

Morbid changes observed in secondary syphilis.

Affections of skin	{	Erythematous—Roseola.
		Papular—Lichen.
		Tubercular—Tubercles that may desquamate, ulcerate, or encrust.
		Scaly—Psoriasis, lepra.
		Pustular—Ecthyma.
Affections of mucous and semi-mucous membranes.	{	Superficial white aphthous-looking ulcers on the tonsils, soft palate, and fauces—Superficial ulcers on the sides of the tongue and angles of the mouth—Mucous tubercle on condylomata on semi-mucous surfaces—Deep excavated ulcers of tonsil.
Iritis—Muscular pains—Arthritic pains—Pains in bones— Periostitis—Nodes.		

The above table contains the principal affections of constitutional syphilis termed secondary, in which the venereal poison still exists, and may, therefore, be communicated by cohabitation, and transmitted to the offspring, and in which mercury is beneficial, and iodine of but little or no service.

In tertiary syphilis, syphilitic cachexia, or sequelæ of syphilis, the following pathological conditions are found:—

* Delivered at St. Mary's Hospital, July 23rd, 1873.

Inflammation of fibrous membranes.	Periostitis—Resulting in nodes. Caries and necrosis of bone. Affecting fibrous tissues of joints—Arthritis. Affecting fibrous tissues of testicle—Orchitis. Affecting fibrous tissues of globe of eye—Scleratitis.
Affections of skin and mucous membranes.	Rupia—Cachectic ulcers of skin. Rapid ulceration and sloughing of the soft palate, fauces, pharynx and larynx; of the rectum, vagina, nymphæ, and labia.
Deposits of fibro-plastic lymph imperfectly organized.	In the areolar tissue (subcutaneous or submucous tubercles). In muscular tissue: more frequently met with in the tongue, and occasionally in other muscles; also met with as post-mortem appearances in the liver, spleen, kidneys, lungs, and other viscera.
Lardaceous and waxy deposits.	Occasionally found in the post-mortem examination of the bodies of persons of dissipated habits.

In the above table are classed the pathological changes which occasionally present themselves in patients who have passed through the primary and secondary stages of syphilis, but in whom the venereal poison no longer exists, and cannot therefore be transmitted. The remedies required in these affections are especially iodine and sarsaparilla, and mercury is injurious.

There might be, he said, a few exceptions to the strict line drawn in these tables, but the exceptions could be readily understood, and rather tended to prove the rule—for instance, periostitis and nodes would be found in both tables: when of early appearance and associated with secondary affections, mercury should be given; when of late date and co-existing with tertiary affections, then iodine should be the remedy. Tubercular and ecthymatous eruptions would occasionally be found to run into rapid destructive ulceration, and this, again, indicated the supervention of syphilitic cachexia. Again, iritis would be sometimes met with in tertiary syphilis; it would be found, however, that the affection commenced in the sclerotic or fibrous coat, and had extended to the iris. In all these cases the predominant co-existing symptoms would always indicate the constitutional condition of the patient, and the treatment required. The lecturer attributed the unsettled state of opinion of which he complained to the variety of views taken by different authors on syphilitic affections. Some pathologists objected altogether to the division of the symptoms into secondary and tertiary, and held that, as they all were consequent upon the primary infecting chancre, the term secondary should include both groups. Dr. Wilks also objected to this division, and preferred to include all primary and secondary affections under the term of syphilis, and all the tertiary of other authors, with the exception of the fibro-plastic deposits, under the title of sequelæ of syphilis. Many practitioners who did admit the classification of the symptoms into secondary and tertiary had, he observed, not made up their minds to which group some of them properly belonged. He

thought, however, good practical grounds existed for the divisions explained in the tables

With respect to the true nature of syphilitic cachexia, the lecturer confessed that we were still in ignorance. He himself was in favour of considering it a dyscrasis of the blood, and would venture to advance a theory founded upon the well-known views of Liebig with respect to the mode of action of animal poisons on the blood. He compared it to the formation of yeast by fermentation in a saccharine solution to which gluten had been added. So long as any gluten remained yeast could be formed, but its formation ceased when the gluten was exhausted, and could be renewed only by the addition of more gluten. Syphilization had taught us that the venereal poison, like that of variola and vaccinia, could not be produced in any individual to an indefinite extent, and that the power of generating it became sooner or later exhausted, when he was said to be syphilized. Applying these data, Mr. Lane explained his theory to be that the act of generating the venereal poison in its primary and secondary states had completely exhausted the blood of one or more of its normal constituents not readily reproduced, and that this deteriorated blood constituted the syphilitic cachexia or tertiary syphilis, the morbid condition under consideration. He also suggested that mercury might possibly prey upon the same unknown constituents of the blood, and thus prove beneficial by taking from the venereal poison that upon which it depended for its formation. This view of the action of mercury would support the very general opinion that tertiary syphilis was the result of the joint action of syphilis and mercury on the system, and would also satisfactorily explain why mercury should not only cease to be beneficial, but should prove to be injurious. Mr. Lane thought that this theory, however imperfect, might serve to account for many of the phenomena observed in tertiary syphilis, such as the inability of patients suffering from this malady to transfer the poison of syphilis to others, also the extreme difficulty of inoculating such persons with the primary venereal poison; and, again, why restorative remedies—iodine, sarsaparilla, steel, and quinine—combined with good living and other stimulants, should be found more beneficial than mercury in the treatment of these cases.

Having explained that his theory would lead him to attribute the debilitated and asthenic condition of the sufferers from tertiary syphilis to the absence of certain unknown constituents of the blood, he proceeded to observe that the principle upon which the treatment should be conducted was to restore these constituents, and that, consequently, all evacuants, and especially preparations of mercury, all debilitating influences, all wear and tear of system, all over-exertion of mind or body in pleasure or business, should be avoided; and that, on the contrary, tonic, stimulant, and restorative measures, combined with good generous diet and judicious hygienic regulations, were the remedies to be depended upon. The medicines which were found of most service were iodine and sarsaparilla; their *modus operandi* was not understood, but they were of far more value than the ordinary tonics—steel, bark, and the various other bitter and astringent remedies. With regard to the salts of iodine, the lecturer's experience led him to say that they were powerfully stimulant, and had even a tendency to produce inflam-

mation. He related a case in proof of this where the iodide of potassium, given in three-grain doses, was followed three successive times by an inflammatory attack, and was obliged to be relinquished in consequence. In reference to the large doses in which this medicine was sometimes given in the present day, he remarked that twenty-five years ago, having heard that some French surgeons administered this remedy in two-drachm doses, he had given it in that quantity thrice daily to one patient in the Lock Hospital for three weeks in succession without noticing any more marked effects, beneficial or otherwise, than from the ordinary five or ten-grain doses. He was convinced, however, that some degree of caution was necessary in administering this remedy in large doses. He had seen one case where a gentleman of his own accord took as much as ninety grains thrice daily for years, and usually with impunity, but in whom the poisonous effects showed themselves from time to time by attacks of hyperæsthesia, and ultimately of temporary paralysis of the lower extremities. Sarsaparilla, he observed, was in his opinion greatly undervalued by many surgeons as a remedy in tertiary syphilis. He was old enough to remember, before iodine was introduced, when surgeons were obliged to depend upon this drug alone in the treatment of these cases, and he was glad of this opportunity of expressing his decided opinion of its value. Before the introduction of iodine he had fully tested the powers of sarsaparilla as compared with those of steel, bark, and other tonics, by treating cases in the Lock Hospital, under the same hygienic conditions, alternately by the latter remedies and by sarsaparilla, with the result of convincing him that they possessed little or no efficacy, and that sarsaparilla was the most powerful remedy then known in the treatment of tertiary syphilis.

Mr. Lane, having made these general observations on the subject of treatment, and having laid down the principle upon which it should be conducted, gave the details of the plan he had found most generally useful. It consisted of administering the iodide of potassium in doses of from three to ten grains, taken in the third of a pint of the simple or compound decoction of sarsaparilla as a vehicle, three times daily, alternating with a pill of two grains of quinine and three grains of confection of opium, also taken thrice daily. He had found opium of service not only in allaying pain and irritability, but also in moderating the secretions, and thus preventing unnecessary waste. Exceptional cases might require the iodide to be increased to fifteen or twenty-grain doses. Diarrhœa, which is not unfrequent, must be met by larger doses of opium and the ordinary astringent remedies. The local treatment he considered of secondary importance, and did not feel warranted in occupying their time with it; the general principles of surgery would sufficiently guide them.

After referring to some remarkable cases of disease, Mr. Lane concluded by observing that the task he had set himself was to make clear to his hearers in what class any given case of constitutional syphilis should be grouped, and how it should be treated. If he had at all succeeded in his endeavour, he would have the satisfaction of feeling that their time and his had not been altogether thrown away.

ART. 124.—*On the Prognosis of Syphilis.*

By F. R. STURGIS, M.D., Assistant-Surgeon of the Manhattan Eye and Ear Hospital, New York.

(*American Journal of the Medical Sciences*, July.)

From what has been written, Dr. Sturgis has arrived at the following conclusions:—

1st. That syphilis is a self-limited disease, and the patient, if blessed with a sound constitution, will, in the average of cases, get well, even if left untreated; but this course exposes to great and serious risk.

2nd. That some general idea may be formed as to the future from the character of the earlier lesions; *this rule, however, is not absolute, as some cases do occur where the early stages are slight and the subsequent ones severe.* They are, nevertheless, I think, exceptional.

3rd. That as the disease progresses, the prognosis is less favourable, more especially where important organs are attacked, such as those of the nervous or arterial systems; and,

4th. That in forming an opinion, due regard must be given to the age and general health of the patient, and in the treatment attention must be paid, besides the proper use of specific remedies, to strengthening the patient, if debilitated from any cause whatsoever.

ART. 125.—*On Peculiar Modes of Transmission of Syphilis in Married Life.*

By VICTOR DE MÉRIC, F.R.C.S.

(*British Medical Journal*, August 30.)

The author passed first in review the modes in which a wife may be contaminated by her husband, and *vice versâ*; paying particular attention to those cases where no outward signs of syphilitic taint are apparent. He alluded, then, to the share of gestation in the mechanism of the contamination of the wife, observing that impregnation is not the only mode in which she may become affected with the complaint. Numerous facts had put beyond doubt the modes of transmission just alluded to; but he had met with cases where contamination had been effected in an exceptional manner. The author then related some of his exceptional cases. The first had reference to a gentleman who had been under his care several years before his marriage, and had passed through the usual periods of syphilis. He married eighteen months after the last symptoms, and a series of healthy children were born. That father suffered now and then from impetigo, and had once very severe osteitis; but neither the wife nor children experienced any contamination. About ten years after marriage, the husband was indiscreet, and caught a chancre which subsequently became phagedænic. Considering the lesion, at first, as a mere abrasion, he took no precautions, and the result, unfortunately, was the breaking out of a fearful set of symptoms of syphilis in the wife. The author now asked whether this case did not

prove that the secretion of a soft chancre, seated in a syphilitic individual, might convey the general disease; and added a few remarks as to the effects of pathological secretions from a person suffering, or having suffered, from syphilis. The second case was illustrative of the great difference between occasional intimacy and the actual bonds of marriage. In this case the disease was conveyed from wife to husband, though no such accident occurred through several years of former intimacy. The third case related to a married gentleman, who caught a chancre which eventually proved indurated. The lesion was, however, so insignificant at first that no heed was taken. The wife was far advanced in pregnancy at the time, and the consequence was that fœtus and mother were contaminated. These facts would go far to prove how infectious was the chancreous erosion in its nascent state. The fourth case was of a remarkable kind, as the gentleman suffered from systemic syphilis without having ever presented a primary sore. Here the wife escaped at first, but eventually had the disease through her infected child. Mr. de Méric alluded subsequently to a few other cases, in which mothers and numerous children remained healthy, though the husbands suffered from syphilis before and after marriage. He concluded by mentioning instances where the wives of syphilitic husbands had fallen into bad health, without presenting any actual symptoms of the disease.

This paper gave rise to a discussion bearing chiefly on the question as to the frequency and forms of transmission of syphilis to the offspring, and as to its transmission to offspring without affecting the mother.

Mr. Gant mentioned an instance of a married patient who, after having borne healthy children, acquired syphilis from her husband, and after some time gave birth to a healthy child. A recrudescence of the disease some years afterwards was followed by the birth of another healthy child. Mr. Gant mentioned the possibility of these children exhibiting symptoms after the period of the second dentition.

ART. 126.—*The Treatment of Syphilis.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Mr. Jordan has long been in the habit of treating primary syphilis (as well as secondary) with extremely small mercurial doses, and he has seen a large number of cases where, with marked Hunterian induration, there have followed absolutely no signs of secondary syphilis. In destructive tertiary ulceration of the nose or lips, or face generally, as also in specific ozœna, Mr. Jordan always adds a seton at the back of the neck to the ordinary syphilitic treatment, and with striking benefit.

ART. 127.—*Treatment of Wounds of Joints.*

By FREDERICK J. GANT, F.R.C.S., Surgeon to the Royal Free Hospital.

In speaking of the treatment of wounds of joints, Mr. Gant states, in his elaborate treatise on the "Science and Practice of Surgery," that preservation of the limb—without any operative interference—should always be attempted in the first instance, but the probability of success will depend chiefly on the nature of the wound and the extent of the synovial membrane, or the size of the joint. A small incised wound or puncture, in a small joint, as one of the finger joints, allows of preservation with great probability of success; a large, open, and perhaps contused wound, in a large joint, as the knee, is almost surely fatal to limb and life. Among large joints, however, those of the upper extremity, the shoulder, elbow, and wrist, are, commonly, unfavourably disposed than in the lower extremity—the hip, knee, and ankle. To save a joint, the wound must be at once closed, thus to solicit union by primary adhesion. A pledget of lint or piece of isinglass-adhesive plaster may be used for this purpose, or the dressing with carbolic acid paste or tin-foil. Repression of inflammation can sometimes be accomplished by rest and cold evaporating lotions. Synovitis having proceeded to supuration, the synovial capsule having become converted into an abscess, the joint should be laid freely open by incisions, as advocated by Mr. Gay, and a portion of the limb secured favourable for its utility, in the event of irreparable destruction of the articulation, followed by ankylosis. Destruction of the joint without this issue must be met either by *excision* of the diseased bone, or by *amputation* of the limb. The choice of these alternatives should be determined by a due consideration of the local and constitutional conditions. An open, and perhaps *contused*, wound of a *large* joint, as the knee, represents conditions which may justify immediate amputation. Fracture involving the joint, or dislocation, as complications, mostly demand immediate amputation.

ART. 128.—*Sleeping Sickness.*

By JOHN W. OGLE, M.D., F.R.C.P., Physician to St. George's Hospital.

In a clinical lecture at St. George's Hospital, in which the results of pressure upon contiguous nerves and bloodvessels by tumours, aneurisms, &c., in the neck were alluded to, Dr. Ogle brought before his class the following communication, which in 1869 he had received from Dr. M'Carthy, Staff Assistant-Surgeon, at Accra, in West Africa, and which, he observed, bore upon the various views as to the mechanism of sleep which had been entertained. Referring to a paper which appeared in the *Lancet*, March 20th of that year, containing the history of a case of ligature of the carotid artery, Dr. M'Carthy wrote as follows:—

"In a note to your clinical observations on the case you describe, you

state that you intend preparing a paper containing the results of arrest of circulation in the vessels from pressure of tumours, &c., as regards cerebral symptoms produced by such conditions, and as the following facts of a very peculiar disease bear more or less on the subject you are about to write on, I send you the particulars, with a hope they may be of some little interest to you.

“The malady I write of is called by the natives of this country the ‘sleeping sickness,’ from the fact that by day as by night the patient shows an extraordinary tendency to drop off to sleep; in fact, cannot remain awake unless some particular cause keep him from sleep.

“The first case of this disease I happened to meet with was on the Island of Buluma, in 1867, and as those I have since seen and heard of correspond exactly in symptoms, cause, &c., with it, I think the subject not unworthy of your consideration. In the first place, I must tell you that I have seen but one patient suffering from the complaint, and as he refused to have an operation performed on him, and has since gone into ‘the bush,’ I know no more about that case. All the other cases I have seen were patients on whom the operation had been performed, and I give you the history, treatment, and result entirely from their accounts, and from the stories of many natives of the country to whom I have spoken on the subject.

“In every case of ‘sleeping sickness’ there is invariably a chronic thickening of the deep cervical glands of the neck, I mean those glands commonly called the ‘glandula concatenata,’ and which form a chain from the base of the skull to the clavicle. The treatment adopted by the native ‘doctors’ consists in removing those thickened glands. I have never seen the operation performed, but it is said to be always followed by cure. In one man I counted no less than thirteen cicatrices in the neck.

“The above disease is not uncommon at Buluma and on the banks of the neighbouring great rivers, and was supposed to be nearly confined to those places, but I have seen a few patients who had been operated on near this place—*i.e.*, the Gold Coast. I have spoken to many of the natives of Accra, but they appear never to have seen or heard of the disease; and the few cases I have met with here I found in what are called ‘bushmen,’ so that probably the disease exists in the interior, and not on the coast of this part of the country.

“I am under the impression that the sleeping symptoms are caused by pressure on the vessels leading to the brain, and by consequent diminution of the supply of blood to that organ, causing a tendency to sleep. We know that those deep cervical glands are particularly numerous at the division of the common carotid artery, and the pressure on the internal carotid may account for the symptoms alluded to. How those so-called native ‘doctors’ extirpate the glands from such a site is more than I can account for. They are perfectly ignorant of anatomy, and yet I have never heard of a fatal case resulting from the operation.”

ART. 129.—*On the Use of Resin-Cloth, in the place of Cere-Cloth, in the Treatment of Wounds.*

By EDWARD LUND, F.R.C.S., Surgeon to the Manchester Royal Infirmary.

(*Medical Times and Gazette*, July 19.)

“To those who practise the system of dressing wounds advocated by Professor Lister, the use of the carbolyzed gauze which he employs, as far merely as expense is concerned, is a matter for consideration. This, perhaps, is the case more in hospital than in private practice, because in the former, at the present time, the gauze is largely used to test the value of the antiseptic method, and economy should be observed as far as possible. Moreover, beyond the cost, there is a difficulty in the preparation of the gauze, for the mixture of paraffin and acid with which the fabric is saturated must be applied to it in a heated liquid state, and, unless a certain temperature be maintained during the whole process, the gauze will be of unequal thickness and imperfectly porous. I have tried to make the gauze myself according to Professor Lister’s recipe, but I have often failed to do so in these particulars. In the paper in which he first described this dressing (in the *British Medical Journal* of January 14, 1871, p. 30), Professor Lister refers to a very curious property possessed by carbolic acid—viz., that it can be combined with resin, and resinous matters generally, with great facility, and when so blended nearly all its irritating acrid properties are neutralized, while the compound so formed retains the power of evolving an antiseptic vapour at the temperature of the body. It is well known that to touch the mucous membrane or even the skin of the lips with a fragment of pure carbolic acid occasions pain and excoriation, in some subjects more than in others; but when we experiment in the same way on a mixture of the acid with five parts of resin we find all the acidity is destroyed; the acid is still present, but it is stored up and rendered harmless by this new combination.

“Having verified this fact by numerous observations, I came to the conclusion that we have here a method of forming easily, without the aid of heat, an application for antiseptic purposes, in surgical practice, of great value. All that is required to carry out the idea is to saturate very thin calico gauze with such a mixture of resin and acid dissolved in methylated spirit, press it powerfully, spread it out to dry quickly, so that it may become quite porous and absorbent, and it is ready for use. Yet the resin and acid thus left upon the threads of the calico after the complete evaporation of the spirit would be found too brittle and adhesive to the skin for a wound-cover and air-filter if something else were not added to impart flexibility. The substance which I employ for this purpose is castor-oil, because it is the only fixed oil easily accessible which is quite miscible with spirits of wine. All samples of castor-oil, by reason of adulteration, do not show this property of perfect solubility in alcohol, as stated by Pereira (*‘Materia Medica and Therapeutics,’* 1865, p. 251), and therefore I am content to use the oil if it

will unite perfectly with twice its bulk of rectified spirit. The exact composition of the solution is as follows:—Carbolic acid crystals, melted, two fluid ounces; castor-oil, two fluid ounces; purified resin, sixteen ounces by weight; methylated spirit, forty fluid ounces—mix.

“To dissolve these ingredients easily we must add them together in a certain order. To the resin, liquefied by heat and removed from the fire, add gradually one-third of the spirit; when these are well mixed, put in another third of the spirit, in which the oil has been previously dissolved; and lastly, the acid in the remaining portion of the spirit must be slowly added to complete the mixture. The whole must be agitated until all the constituents are thoroughly incorporated, and afterwards passed through a muslin filter to get rid of any extraneous matters. Unless this plan be adopted, the resin will concrete into a mass at the bottom of the vessel, and it will be extremely difficult afterwards to get it perfectly mixed. When thus prepared, the solution is of a dark colour, clean and free from any deposit, and it can be kept unchanged in a well-corked bottle for a long time. It is, in fact, a sort of thick varnish. To make the resin-cloth—as I term it, for the sake of distinguishing it from the cere-cloth dressing for wounds which I described in a paper read at the Leeds meeting of the British Medical Association in 1869—it is needful to select a very thin, cheap, porous calico, or calico muslin, known in the trade as ‘mull,’ which costs at wholesale price about 4s. per piece of twenty yards. This divided into strips, each about nine inches wide and six yards long, is reduced to a convenient form for general use. The calico should be unbleached and free from stiffening, and each of the strips should be carefully folded up, so as just to lie flatly in the press, as I am about to explain. An ordinary square tincture-press may be used to press the cloth, or such a press as is sold for copying letters, to which a tin box has been adapted, so that the plates of the press can work in it, and in this box the folded calico is placed, the solution being poured over each successive layer so as to wet perfectly every part of it. There should be an aperture at the bottom of the box, with a tap by which the superfluous fluid can be removed, collected, and used a second time. The press being brought into action, the pile of calico should be squeezed as dry as possible, all the fluid drained off, the resin-cloth taken out, laid over a few lines of string in a warm room with good ventilation, and, in an hour or two, when all traces of smell of the methylated spirit have been dissipated, the cloth may be rolled up and kept in tin cases ready for use.

“It is difficult for me to state the exact cost of resin-cloth made by this process, for I have not yet bought the materials for its preparation at such wholesale prices as could be paid if it were to be manufactured in large quantities, but, allowing for some slight reduction where six or eight twenty-yard pieces of calico are bought at a time, and the solution made by the gallon, I find it comes to a fraction less than 3d. per yard of average width of forty-four inches. In using it as a dressing for wounds, I deal with it precisely as I would do with Professor Lister’s antiseptic gauze, for which it must be taken as a cheap and ready substitute. I generally apply ten folds of it over the face of a wound (as in an amputation), and perhaps six folds higher up the limb for some distance, and I cover it with the mackintosh hat-lining, so as to distribute

the serous discharges through the breadth of the resin-cloth thus covered. I have never found it to irritate the skin in any degree beyond what the oil-silk protective, liberally used, could control, except once, when, in the hurry of preparing the resin-cloth, I had neglected to dry it thoroughly, and it was applied still moist with the methylated spirit, the naphtha in it seeming to be the chief cause of the skin irritation. But if this precaution be observed, I believe this resin-cloth will be found a very useful addition to our means of treating wounds and abscesses on antiseptic principles."

ART. 130.—*Two Cases of Tetanus cured by Neurotomy.*

By Drs. RIZZOLI and MARTINELLI.

(*Gazette Hebdomadaire*, No. 31, 1873.)

Attempts to treat tetanus by surgical proceedings have been made from a very early period, and Celsus wrote of dilatation of wounds as a means of acting on diseased nerves. Neurotomy or ablation of a portion of nerve was practised by Froriep and subsequently with success by Murray, Hicks, and Pecchioli of Sienna.

One cannot deny the utility of section or resection of nerves in certain cases of traumatic tetanus, but it is necessary to bear in mind the conditions which indicate the operation. The presence is necessary of a series of symptoms which indicate a tetanus of local origin, and which may enable us to fix upon the injured nerve. The two following cases serve to demonstrate the possibility of successful interference:—

In the first case symptoms of tetanus appeared nine days after crushing of the fourth and fifth toes. Dr. Rizzoli discovered in the wound a white filament, which he recognised as a nerve; on touching it he caused intense pain to the patient, which was followed by tetanic convulsions. This nervous filament having been excised, the pain in the foot ceased, and the convulsed muscles became less active. The tonic convulsions gradually disappeared, and sixteen days after the neurotomy the cure was complete.

The second case was one of gunshot wound of the left forearm. The ball having lacerated the muscles in front of the limb, had lodged near the elbow, under the skin. On the eighth day there was hæmorrhage, which necessitated deligation of the brachial artery. Two days later an abscess was opened near the fold of the elbow, and eight days later tetanic convulsions came on in the arm; these soon affected the whole body. Dr. Martinelli secured a portion of the musculo-cutaneous nerve, and in three days the tetanic symptoms had disappeared.

The cases of tetanus in which one might justly feel disposed to perform section or resection of a nerve are those in which there exists a very intense local pain, or in which a kind of aura has been experienced by the patient, taking its origin at the seat of the injury; finally, those in which one may assume from the seat of the lesion some morbid change in the nerves, and determine the nerve trunk accessible to operation by its correspondence with the branches which are the seat of the lesion.

ART 131.—*On Skin Grafting.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

In speaking of the practical benefit of skin grafting, Mr. Jordan says that on large surfaces after burns, after operations for burns, after plastic operations; indeed, on granulating surfaces of any kind, the grafting of minute pieces of epidermis is attended with unquestionable benefit. In one locality, however, and under circumstances where new growths of permanent skin would be of inexpressible value, skin grafting has conferred little advantage. In Mr. Jordan's experience, in old and large ulcers of the leg, the new skin derived from the grafts, and the grafts themselves, too often disappear when the erect posture and occupation are resumed.

ART. 132.—*Antiseptic Treatment of Wounds.*

By JOHN WOOD, F.R.S., F.R.C.S., Professor of Surgery in King's College.

(*British Medical Journal*, August 9.)

Professor John Wood, in his admirable Address on Surgery before the British Medical Association at its recent meeting, remarked:—"Pyæmia, septicæmia, and erysipelas are undoubtedly the greatest troubles in modern surgery." . . . "When, therefore, a system of dressing wounds is brought before us, sanctioned by worthy names, and supported by the results of cases, offering a means of escaping these terrible enemies, it is our bounden duty to give it a fair and full trial.

"Such is the antiseptic system of dressing wounds originally developed by Le Maire in 1860 and 1865—in the use of coal tar, and its derivative carbolic acid, as an application to wounds. As long ago as 1815, French chemists had proved the antiseptic qualities of oil of tar. . . .

"A great impulse was given in this country to the use of carbolic acid by Professor Lister, in February, 1867, well known to the Association from the exposition of his method by that talented surgeon to the meeting at Plymouth. Since that time I have given his system, I believe, a fair trial at King's College Hospital. At the same time, and under the same conditions as far as could be obtained, I have employed the solutions of carbolic acid in oil and water, and those of metallic salts, as well as other antiseptic substances, such as chlorozone, &c., but without the elaborate attempts to exclude the unpurified atmospheric air which Lister deems essential. . . .

"As an experimental and scientific mode of research, which may turn out to be also a converging line in surgery, I have the highest possible respect for Professor Lister's system of treating wounds.

"Upon his theory of germs, it is consistent and simple enough; but it is as a practical method of treating open wounds, available under ordinary circumstances in hospitals and private practice, in emergencies, and on the battle-field, that it must be estimated, and will ultimately take its place; and it is with that view that I have put it, as far as possible, to the test. I began it at a time when the hospital was in a good hygienic condition, and the cases for that time did admirably. I had some cases quite equal to any described by Professor Lister himself. I at the same time tried the application of dry lint, without any moisture whatever, to the wound, and in many cases, especially in breast cases, the results were also perfect. In one breast case union by adhesion occurred throughout the wound. I also tried the application of the chloride of zinc solution in the manner originated by Mr. De Morgan, and very good results ensued—viz., healing with the formation of little or no pus. After about six months there came into the hospital a very unfavourable change, and, from inquiries made at the time, I concluded that a similar condition prevailed in most or all the London hospitals. Erysipelas and its concomitant pyæmia began to show themselves, the former not springing up in the hospital itself, but imported with patients. The wounds now began to suppurate more, primary healing was less common, and the erysipelatous blush appeared with blameworthy impartiality in cases treated in all kinds of ways, and almost as impartially on my own antiseptic side of the hospital as on my colleague Sir William Fergusson's non-antiseptic side. But this I feel bound to say, that there was little or no putrefaction, as evinced by the odour, in any of my cases, which my eminent colleague shrewdly attributed to the carbolic smell overpowering all others. Upon this point, however, I must say, I did not agree with him. I had one case of amputation of the thigh for a tumour of the lower end of the femur, in a man about sixty. I treated it by Lister's method, carefully carried out, and, from beginning to end, there was very little discharge and no putrid or offensive smell whatever; but the wound did not heal, the end of the bone remained unadherent and devoid of granulations, and the man lingered for two months in a declining and emaciated state, and finally succumbed to chronic pyæmia with secondary abscesses in various parts. The occurrence of many other cases similar in character to this has convinced me that the agencies, whatever they are, in pyæmia, operate in the general system, or, if through the atmosphere, in other channels besides the wounded part, as in cases of pyæmic poisoning from deep internal glandular pus deposits, and in other acute and chronic tubercular affections.

"Some time afterwards I had a case of compound fracture of the tibia and fibula, with a limited aperture in the skin, in a man nearly seventy years of age. I put it up carefully in Lister's method, carbolic spray, prepared gauze and jaconet, complete. On dressing it several days afterwards, suppuration was found to have occurred, and the pus had accumulated considerably in the dressings. The treatment was continued, and kept the wound free from all unpleasantness, but still the amount of suppuration was very considerable. There was burrowing of pus along the muscles and bones, and a total want of union. In this case I was ultimately obliged to amputate below the knee. The ampu-

tation wound was also treated antiseptically, but still the amount of pus was considerable, and although from the man's age and reduced condition, the progress of healing by granulation was slow, the case did ultimately exceedingly well, and made an excellent stump.

"In some cases of psoas abscess treated by Lister's method we had marked success so long as the hospital was healthy. When erysipelas and pyæmia appeared, however, we had others in which the pus in the abscess became putrid and offensive after the first evacuation under the spray and with all the precautions, and I was obliged to make free openings and introduce drainage tubes through which the abscess could be washed out thoroughly with antiseptic. Such cases show that we cannot without danger depart, in the generality of wounds, from the old rule of providing a free exit for all purulent and offensive discharges, and for the want of this the exclusion of air is not a sufficient compensation. I cannot consequently approve of the plans originated by Baron Larrey and followed by Gosselin, and more lately by J. Guerin and Maisonneuve, of 'occlusion pneumatique,' the amount of resemblance to which, in Lister's method, constitutes, it seems to me, some part of its deficiencies. To a great extent this objection also exists to the plan followed during the second siege of Paris by Alphonse Guerin, of using thick investments of compressed cotton-wool after washing the wound with alcohol, and then leaving it, without disturbance or removal of the deeper layers, for periods varying from a fortnight to two months, or even more. This plan for keeping from the wound injurious atmospheric influences seems to have been deduced from Professor Tyndall's experiments upon the purifying results of the cotton filter of Pasteur. It was shown by Hervey that, as used by Guerin, it neither prevented putrefaction and fetor in the wound, nor the formation of abundance of microzoa therein. Here again we have instances of the propriety of that regular and systematic inspection of wounds which the practice of hermetically sealing them up prevents us from obtaining.

"In clean incised wounds, where the formation of pus is not likely to occur, as in some plastic operations, the hermetically-sealing plan will no doubt maintain its position in general use in its most useful form of collodion. But when suppuration ensues it must be got rid of. Its absorption by dry earth, as advocated by Dr. A. Hewson of Pennsylvania, has the disadvantage of being dirty and offensive to the patients, and of obscuring by its colour the natural appearance of the wound when in contact with it, but as a substitute when better absorbents cannot be obtained, it seems to be of some value. Much the same may be said of charcoal. When this substance is combined with coal-tar, however, as in the way advocated by Dr. Beau, it would seem that a great part of the antiseptic vapour would be absorbed by the charcoal, and the two remedies to some extent thus neutralize each other."

ART. 133.—*Isolation and Treatment of Wounds.*

By GEORGE W. CALLENDER, F.R.S.

(*British Medical Journal*, August 30.)

The author described to the Surgical Section, British Medical Asso-

ciation, a plan of treatment which he had followed for several years in St. Bartholomew's Hospital, and of which the results were at least as satisfactory as those following the employment of the antiseptic method, while it was much more simple. In 199 cases treated in this way there had been six deaths; and in 28 cases of compound fracture, and 33 of amputation (including 14 of the thigh), there had been no deaths. The author insisted on the removal of foreign bodies, and expressed his objection to ligatures, as being in fact foreign substances. Instead of tying arteries he used torsion. After all bleeding had stopped the wound was washed with carbolic acid (1 in 20 of water), closed with silver sutures, and fitted with a drainage-tube (a suitable form of which Mr. Callender had had made). After this, layers of lint dipped in carbolized oil (1 in 12 of olive oil) were laid over the line of incision or over the laceration; and over these a quantity of cotton-wool for warmth and protection. After the dressing the wound was placed in such a position as to secure absolute rest. After the first day, the drainage-tube was generally removed, and the dressings were applied as before. No special provision was made for excluding the air. As far as practicable each case was placed between patients free from wound or discharge, and the wound was cleaned by means of a camel-hair brush, with a solution of carbolic acid in five parts of spirits of wine. Mr. Callender remarked that in this plan antiseptic treatment was used in a limited way, and that the results which he brought forward showed that, with the exercise of proper care and supervision patients did as well in a large hospital as anywhere else.

Sir John Rose Cormack (Paris) said that he had, during the two sieges of Paris, treated a great variety of the worst description of shot and shell wounds, and he had seen similar cases treated contemporaneously by others, and his firm conviction was, that the success was not so much with the skilful operator as with the man who patiently and with scrupulous care conducted his dressings, and attended to the hygiene of his patients. Mr. Lister's system was not adopted in the American ambulance, nor in either of the hospitals of which he (Sir John Cormack) had charge; and yet in all these the success was very remarkable. The system which Sir John Cormack adopted (varying it according to circumstances) was to tide over the period of shock by large opiates; to use in all the dressings abundance of *étoupe goudronnée* or oakum, which, from its antiseptic properties and its power of absorbing the discharges, as well as its elasticity, was used universally in the American and English ambulances. He gently washed the wounds and the surrounding parts at each dressing with creosote water, to remove adherent noxious discharges; and the crevices were carefully cleansed by injecting the same fluid. When necessary and at all possible, incisions were made, and drainage-tubes were used to prevent the accumulation of discharges in crypts or pouches. The very simple and effectual method suggested by Mr. Callender, of lightly brushing out the cavities with a camel-hair pencil, would no doubt have answered as well as, and in some cases perhaps even better than, the syringe. He attributed much of Mr. Lister's success to the general medical and hygienic treatment which that gentleman strenuously carried out, rather than to the niceties and complexities of his special system. In support of his

views, Sir John referred to some of his cases of lacerated wounds and amputations, in which, he believed, recovery was mainly attributable to the system which he briefly described, and in some instances to the additional precaution of changing the personal and bed linen once, and sometimes even more frequently, in the course of the day. This had been done in one case where the patient had seventeen lacerated wounds, and made a good recovery. An additional precaution was generally taken—to wit, having the patients carried out on stretchers to the free breeze of the garden, whenever the weather permitted, so that their bedding and the wards might be cleaned. In addition to this, the floors and beds were regularly watered with creosote water several times a day.

Mr. Gant (London) was of the same opinion with regard to Mr. Lister's plan.

Mr. Green (Bristol) had found that many years of large hospital experience only wedded him the more firmly to the doctrines long since taught him by Mr. Lawrence—namely, extreme simplicity in the treatment of wounds, and above all, a free outlet for discharges.

Mr. Cresswell (Merthyr Tydfil) and Mr. Hemingway (Dewsbury) also spoke.

Mr. Lund (Manchester) said that Mr. Callender's method was really antiseptic, while its simplicity was to be admired.

Mr. Hey (Leeds) had given Mr. Lister's plan a fair and unprejudiced trial, but repeated experience of it had convinced him that even when carried out carefully by Mr. Lister's own pupils, the method showed no superiority over a simple plan of treatment such as that employed by Mr. Callender. He had even seen union delayed in wounds by reason, as it seemed, of the employment of the more elaborate antiseptic dressings, although in other cases it answered all expectations. Mr. Callender, in reply, pointed out that his plan involved absolutely no precautions against the admission of air, and could not, therefore, be considered as a proof of the superiority of Mr. Lister's method of "antiseptic" treatment.

ART. 134.—*Fallacies and Failures in Antiseptic Surgery.*

By E. LUND, F.R.C.S., Manchester.

(*British Medical Journal*, October 18.)

The author described certain fallacies, or erroneous notions, which seemed to be ascertained in reference to the antiseptic treatment of wounds. He arranged these in six classes, having reference (1) of the mode of action and exact influence exerted by carbolic acid; (2) the presence or absence of suppuration; (3) the use of pus as a solvent for indurated tissues; (4) the effects of the entrance of air; (5) the contagion of septic matters; (6) the necessity for absolute cleanliness in the management of wounds. The sources of error or failure in this mode of dressing, especially after operations, were also considered under six heads; 1. Imperfect preparations before the operation, so as to free the parts implicated and the instruments employed from septic matters;

2. Inefficient assistance during the operation, with the same object ; 3. Imperfect adjustment of the dressings after the operation, so as to filter and disinfect the air which must gain access to the wound ; 4. Delay in the removal and replacement of the dressings ; 5. Carelessness in the particular method of doing this ; and 6. Erroneous notions as to the possible approach of serious symptoms in the progress of any case which would yield to a steady perseverance in the plan, but which often led to its entire abandonment at the most critical stage of treatment. All these points were brought forward as deductions from direct personal observations by the author himself, in his daily practice of the antiseptic system.

ART. 135.—*Chronic Inflammation of the Spinal Cord and its Membranes ; Disease of the Spleen.*

By WILLIAM STOKES, M.D., F.R.C.S. Ireland.

(*Dublin Journal of Medical Science*, July.)

At a recent meeting of the Pathological Society of Dublin, Dr. Stokes detailed the following case and exhibited the recent specimens :—

The patient, aged fifty, was admitted to the Meath Hospital Dec. 11th, 1872. She was a washerwoman, and had worked very hard, being exposed to frequent and sudden changes of temperature. She had had indifferent health for about twelve months. About this time last year she became subject to pains in “all her bones,” but particularly in those of the spine. About six months ago her bladder became troublesome—she passed little water, and that at unnaturally long intervals, though she had frequent desire to do so ; and micturition, at its commencement, caused a stinging sensation in the urethra. These inconveniences increased ; and six weeks ago the pains became more severe and less intermittent. From that time the bladder irritation became more annoying, and finally, three weeks ago, her head was suddenly drawn back, and she became utterly unable to work.

She had not been exposed to contagion, nor could she attribute her illness to anything but “cold and hard work.”

On admission, the following was her state :—Her head was forcibly retracted, it being impossible for herself or any one else to draw it forward. She cried out with pain, which she said “ran through all her bones”—it was in her legs, arms, back, and head. This pain was of a “shooting” character. There was extreme tenderness all along the spine—she could not bear to be touched. Her arms and legs also were sore to the touch. There was a constant tremor in the arms and upper part of the trunk. The muscles of the arms were unnaturally tense and resisting. She constantly grasped the bed-clothes, or anything she could get hold of, with great firmness. There was a remarkable curvature of the spine forward in the lumbar region ; but there was nothing else about the part which would strike one. She complained of being “dead cold.” She lay either on her mouth and nose, or half on her face and half on her side—she could not attempt to lie on her back. She could not move from one

posture to another in bed. The skin was very cold. The pulse 100, and so weak that it could only be counted at the heart. The heart's sounds were both present, though weak and distant. Her bowels had not been moved for nearly a week. She had, just before coming in, evacuated her bladder for the first time for two days. The tongue was covered with a yellowish-white fur. She was heavy, dull, and stupid. The pupils were normal and answered to the stimulus of light, but there was a wild expression about the eye. The respiration was 36, and accompanied by a sort of moan or groan. The temperature was $98^{\circ}6$. She had a bad appetite and some difficulty in swallowing. In the evening she was in the same state. Pulse 120, respiration 28, temperature 99° .

On the twelfth she had slept a good deal. Complained greatly of the pains. Pulse 120, and a little stronger. Respiration 40, and quieter. Temperature $92^{\circ}2$.

About one o'clock, while she was being moved in bed, her whole muscular system was suddenly thrown into violent spasms. She shrieked with pain; her respiration was very noisy, being accompanied by loud mucous râles, and every third or fourth respiratory movement brought up from her stomach matter of a port wine colour. She was extremely cold, and her urine was pouring from her; she was unable to swallow anything.

In the evening she was lying half on her face and half on her right side, unable to move and incapable of being moved. Pulse imperceptible. Respiration 54, and accompanied by loud mucous râles, with a sort of hiccup about every twenty seconds. Temperature, $98^{\circ}2$. She was unable to speak or to swallow. Her pupils were slightly dilated. The extremities were cold and death-like. She died two hours afterwards.

Dr. Stokes observed that the case presented some of the symptoms of cerebro-spinal arachnitis, but there was no fever or history of fever. The disease began with local rather than essential symptoms, having commenced with disturbance of the functions of the bladder, and pains in the bones, the symptoms more especially referable to the spinal marrow having followed after a considerable interval. She never had any delirium. As far as relates to symptoms, the case somewhat resembled those of cerebro-spinal arachnitis, but as regarded its history was altogether different.

Post-mortem examination.—There was nothing remarkable found in the brain, with the exception of a considerable amount of vascularity and congestion.

When the vertebral canal was laid open, throughout its whole extent, in the usual manner, the cervical portion of its contents presented no abnormal appearance, but throughout the dorsal region the cord had a very tumid aspect, owing to the distension of its sheath, by a copious effusion of purulent matter and lymph. In taking out the cord, more than two ounces of pus were evacuated; the substance of the cord was much softened, as was also the cauda equina.

In the abdomen, the only morbid conditions noticed were connected with the spleen. It was remarkably hard; so much so, in fact, as to give to the touch the feeling of a scirrhus tumour; its surface also was nodulated. On making a section, however, the organ was found to

contain hydatid cysts, the parietes of the largest of which had undergone complete calcareous transformation. The contents consisted of a thick putty-like material, which had probably been originally of a fluid or semifluid nature, but had subsequently undergone a strumous degeneration. Professor R. W. Smith, who had examined the specimens, was disposed to adopt this view, and if it were correct it would point to the strumous origin of the morbid appearances observed in the spinal cord and its membranes.

ART. 136.—*On the Treatment of Glandular Affections.*

By F. PAGE ATKINSON, M.D., &c., late Surgeon to St. Bartholomew's Hospital, Chatham, and Royal South London Dispensary.

(*Edinburgh Medical Journal*, August.)

Acute glandular inflammation, speaking generally, and according to Dr. Atkinson's experience, requires the administration internally of the effervescent citrate of potash, and the application locally of a sedative, or the tincture of iodine. The citrate of potash and the bicarbonate (into which the citrate afterwards becomes changed) may both be described as saline febrifuges. They are alteratives, especially to the glandular system, and give activity to the secreting and excreting organs. They also influence the composition of the blood by rendering the fibrin less plastic. Citric acid by itself is said to diminish the preternatural heat of the system, and to allay thirst and irritation of the skin.

In *Quinsy* the author states that he can predict with certainty that any patient will be quite well, and able to resume his duties, on the fourth day; whereas, by the old method of treatment, the disease lasted from nine to ten days. He does not know of a single instance in which matter has formed, except prior to the time of the patient coming under his care. The prescriptions he gives are the following:—20 grains of bicarbonate of potash; 30 minims of the compound tincture of guaiacum; as much as is necessary of the compound tragacanth powder—in one ounce of water; and 15 grains of citric acid, in half an ounce of water. To be taken in a state of effervescence, three or four times daily; 25 minims of the tincture of iodine, in an ounce of water, to be used as a gargle three or four times daily; three or four glasses of port wine in the course of the twenty-four hours, and as much beef-tea as the patient can take.

The throat should be left uncovered, and poultices, steam inhalations, &c., should be particularly avoided, as also should the use of purgatives. In these cases there is generally a rheumatic tendency; and it will be found on inquiry that there has been excessive mental or bodily exertion prior to the attack.

Quinsy is not the result of cold; for if it were laryngitis would be a more frequent accompaniment than it now is. As regards the treatment, Dr. Atkinson remarks that it must be carried out in its entirety, or the results expected will not be obtained. When suppuration has

already commenced, order simply the iodine gargle, the port wine and beef-tea, and omit all internal medicines.

In the case of *Inflammation of the Breast*, Dr. Atkinson says, give the following :—20 grains of bicarbonate of potash ; 10 minims of spirits of nitrous ether ; 10 minims of aromatic spirit of ammonia—in one ounce of water ; and 15 grains of citric acid in half an ounce of water ; and order to be taken, in a state of effervescence, every four hours.

Apply to the breast an ointment consisting of three parts of the extract of belladonna, and one of iodine ointment. Keep the patient up with good strong beef-tea, and if there is much fever, with a quick pulse, give port wine. The rationale of the treatment proposed is this : The effervescing citrate of potash, as stated above, acts as a febrifuge ; the nitre relaxes the cutaneous vessels, and lessens the quantity of fluid which keeps flowing to the breast ; while the belladonna soothes pain ; and the iodine helps the absorption of the lymph which has been thrown out. Where abscess has already occurred, give 30 minims of the perchloride of mercury solution, 15 minims of spirits of chloroform, 15 minims of dilute hydrochloric acid, 60 minims of compound tincture of bark, in one ounce of water, three times daily ; and paint the breast with a solution of nitrate of silver (2 grains to the ounce of water).

It has rarely been found necessary to strap the breast, except when the abscess has been very deep, and the opening has taken place on the upper surface of the breast ; and even in these cases strapping rarely proves of much service.

In cases of *Inflammation of the Testis*, Dr. Atkinson orders the effervescing citrate of potash, in combination with drachm doses of hyoscyamus. The testicle itself should be well supported, and kept covered with some lint dipped in a lotion of 15 minims of the tincture of opium and 15 minims of the tincture of belladonna to the ounce of water, and this again enveloped in oiled silk. This method of treatment will be found to lessen pain, and also the tendency to bubo. When the testicle becomes chronically enlarged, cover it with lint smeared over with blue ointment, and strap, and give the perchloride of mercury and bark internally. Where *Bubo* occurs by itself, give the effervescing citrate of potash and hyoscyamus internally ; paint the enlarged gland with iodine, keep it covered with spongiopiline dipped in a solution of sulphate of zinc and alum (3 grains of each to the ounce of water), and enjoin rest. In both these cases stimulants should be avoided, and the patient should only take a light diet. Barley-water may be recommended as a drink. Beef-tea, of course, should be freely given. Where the *parotid* becomes inflamed, give the effervescing citrate of potash and guaiacum, paint the gland with tincture of iodine, and then, when dry, apply a linseed-meal poultice which has been made up with a warm lotion, consisting of 3 grains of alum and 3 grains of sulphate of zinc, in one ounce of decoction of poppies. Port wine should be given according to the necessity of the case, and plenty of beef-tea. Where there is *Inflammation of the Absorbents*, Dr. Atkinson orders the effervescing citrate of potash and ammonia, and keeps the limb encased in a poultice made up as above. When there is *suppuration*, Dr. Atkinson finds it best to prescribe 3 grains of muriate of cinchonine, 15 minims of the tincture of the perchloride of iron, and

15 minims of spirits of chloroform, in one ounce of water, three times daily; port wine or brandy according to the requirement; and beef-tea as much as can be taken.

In the case of *Scrofulous Enlargement of the Glands*, give the syrup of the iodine of iron internally, with small doses of grey powder and powdered ipecacuanha, and paint externally with tincture of iodine; and the same treatment may be applied both internally and externally where there is an ulcerated surface. The local application of iodine certainly seems to effect more good than the nitrate of silver.

Where there is *Enlargement of the Thyroid*, apply a lotion constantly, consisting of 3 grains of alum, 3 grains of sulphate of zinc, 3 grains of sulphate of iron, to the ounce of water; and give internally the following mixture:—3 grains of the bromide of potassium, 60 minims of Parrish's chemical food, 10 minims of tincture of digitalis, water to the ounce—three times daily. Pancreatic emulsion is also of use in giving nourishment to the nervous system. Underdone meat, and plenty of farinaceous food, should be also recommended.

There are two chronic diseases of the tonsil which are often overlooked—viz., fatty enlargement, and adenoid disease. According to Mr. Harvey, the aurist, these are not unfrequently the cause of deafness, and it is important therefore to bear this in mind on all occasions. In the case of fatty disease of the tonsil, the patient must be put on the same line of diet as is recommended for general obesity. Where there is *Adenoid Disease* of the tonsil, a bougie should be passed along the floor of the nostrils into the pharynx, and after this a little tannate of glycerine in water should be thrown into the pharynx from the nose. The throat should be gargled with iodine, and iodide of potassium should be taken internally.

The above is a brief outline of the treatment Dr. Atkinson has pursued for some years in the case of glandular affections. The results obtained have been satisfactory, and he hopes those who feel inclined to put upon trial what he has suggested, will not be disappointed in their expectations.

ART. 137.—*On the Removal of Nævi.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Mr. Jordan thinks he has succeeded best in the effectual and immediate removal, with a minimum of deformity, of nævi of the face, by piecemeal excision. When small, the needle-cautery is efficient; when large, he cuts right through them, removes each half piecemeal with curved scissors and clawed forceps, and, as a rule, removes no skin. One or two points of pressure usually suffice to arrest hæmorrhage during the operation.

ART. 138.—*On Professor Esmarch's Mode of Performing Bloodless Operations.*

By WILLIAM MACCORMAC, Surgeon to St. Thomas's Hospital.

(*Medical Times and Gazette*, September 20.)

The importance of the simple and efficient method briefly described by Professor Esmarch at the second Surgical Congress in Berlin, for preventing loss of blood during operations on the limbs, is so great that Mr. MacCormac takes the earliest opportunity of communicating his experience on the subject, brief though it be.

A little girl, five years old, struck the left tibia twelve months ago against a stone; necrosis followed, and when admitted to hospital a year afterwards a sequestrum could be felt in the tibia, enclosed by a considerable thickness of new bone. Whilst the patient was being chloroformed, Mr. MacCormac applied pretty tightly an ordinary elastic bandage from the toes to the middle of the thigh. The bandage was two inches wide and five yards in length, and thus applied, the bandage forced all, or nearly all, the blood from the limb into the body. When the patient was fully narcotized, a half-inch india-rubber rope was wound around the thigh immediately at the upper border of the bandage, and sufficiently tightly to obstruct all the afferent vessels. Hooks previously attached to the extremities of the rope furnished a ready means of fastening it, as well as of removing it at pleasure. The bandage first applied was now unrolled, when the limb presented a blanched appearance. The operation was then commenced; some new bone removed, so as to get at and take away a considerable-sized sequestrum. During the entire time not a single drop of blood appeared in the wound; a sponge was not once required, and the facility with which the operation was conducted and finished requires to be seen to be realized. The tissues were divided, so far as bleeding was concerned, just as they might have been on the dead body. This operation was performed in St. Thomas's Hospital on August 16th in the present year, Esmarch's method for producing local anæmia being then practised for the first time in Britain. Since the operation the little patient has progressed very favourably, and although carefully watched, no peculiarity which might be attributed to the use of the apparatus has been observed either in the wound or in the limb.

Since then other operations for necrosis have been performed, and an excision of the knee lasting thirty-five minutes, also an amputation of the thigh, and in no instance has one single drop of blood been lost. The advantages of such a plan, Mr. MacCormac writes, are so palpable as not to need much insisting upon. The generality of hospital patients can ill spare a serious loss of blood, and such a loss often proves inevitable during operations for extensive necrosis of bone. In amputations the greater part of the blood of the lost extremity is preserved, to the advantage of the patient. The duration of operations will be much shortened, as there is neither blood nor the constant dabbing of sponges into the wound to remove it to interfere with the surgeon's sight. No accident or ill consequence at all appears to follow the use of the

apparatus. In cases where amputations require to be performed for gangrene, or where there is a deposit of septic material in the limb about to be operated upon, there might be a risk of the elastic bandage forcing some portion of the septic material into the circulation. In the further use of the apparatus this possibility must be kept in view. Any one will be surprised, in trying it upon his own arm, to find what a small amount of pressure of the india-rubber rope will stop the pulsation of the radial artery, and the femoral can also be stopped with no great exercise of force. Doubtless the history of surgery abounds with many attempts to empty limbs of blood previous to amputation, and to arrest hæmorrhage during their performance. Stromeyer, in 1853, as he relates in his "Maxims," adopted a plan precisely similar in principle in an operation on a brachial aneurism. He bandaged the limb to a point just above the aneurism, and then applied a tourniquet. The loss of blood was very small during the operation. Billroth mentions that when he was assistant to Von Langenbeck, in 1853 and 1854, a somewhat similar plan was tried in the clinique in Berlin. Vanzetti, of Padua, relates in the *Italian Medical Gazette* that Mr. Silvestri, in Vicenza, has employed bandaging and the india-rubber rope compression above it in amputations; but, this notwithstanding, to Professor Esmarch must be attributed the credit of devising and making known a most simple, practicable, and efficient plan for wholly preventing loss of blood during operations, of whatever kind, when performed upon the extremities of the body.

ART. 139.—*On Compound Fractures.*

By GEORGE W. NORRIS, M.D., Surgeon to the Pennsylvania Hospital.

(*Contributions to Practical Surgery*, pp. 318, Philadelphia, 1873.)

In the essay on "Compound Fractures," Dr. Norris points out the much more serious character of those cases in which the wound is produced by external violence than of those in which the laceration of the soft parts is due to the protrusion of the broken bone:—

"In the first of these classes the wound is generally large and accompanied with great laceration, the bone being often comminuted, and the case altogether one of the most serious kind; but in the second class the external injury is mostly of small extent, and no other parts are injured than those with which the bone comes in contact—union of the wound by the first intention frequently follows, and, even if this desirable event is not obtained, it is soon covered by granulations which speedily cicatrize."

The influence on the progress of the case of the age, habits, and constitution of the patient, and of the season of the year at which the accident occurs, are duly considered, and the increased risk when the seat of fracture is near a large joint clearly pointed out:—

"In making a prognosis, too, it is of importance to consider the limb affected and as a general rule it may be stated that the nearer the fracture be to the trunk the greater the risk incurred by the patient.

In the country, or in private practice, the chances of saving a limb in these accidents is always greater than in large cities or in hospitals. In civil hospital practice, compound fractures of the arm and forearm generally do well; in the leg, under the same circumstances, where an attempt is judged proper to save the limb, the accident is more serious, and a number must either suffer secondary amputation or die, and in the femur the majority of adults will not survive them."

Dr. Norris believes that, with the exception of such as are produced by railway and machinery accidents, the compound fractures met with in civil life are less dangerous than those which are due to gunshot injury, and quotes with approval the saying of Dupuytren—viz., "on one point my opinion is unchangeable. In rejecting amputation in them (gunshot fractures) more lives are lost than limbs saved." In considering what cases of compound fracture demand immediate amputation, Dr. Norris insists upon the importance of regarding the age, habits, and constitution of the patient, as well as the degree of care and attention which he can command during the course of treatment. Thus amputation might be properly performed in the case of an old, feeble, or intemperate person, or of one who was to be treated in a crowded hospital or to be transported a considerable distance from the place at which the injury was received, when the same operation would be quite unnecessary in the case of a young and healthy subject, or of one who lived in the country or who could be nursed in a pure and uncontaminated atmosphere. The local conditions which indicate amputation are stated by Dr. Norris as follows:—

"1st. Where the bone is comminuted, and the soft parts so much contused, lacerated, or destroyed as to make it evident that gangrene must follow.

"2nd. Where the bone is fractured and a portion of the limb torn off by machinery, the bursting of a gun, a cannon shot, or the passage over the part of a railroad car.

"3rd. Where the laceration of the soft parts around the fracture is very extensive or extending into a large joint, even though the bone be not comminuted.

"4th. Where the fracture, though accompanied with but little laceration, extends through the head of a bone into a large joint, as the knee or shoulder. [This rule is subsequently qualified by the statement that in suitable cases, at least in the shoulder, elbow, and hip, excision should be preferred to amputation.]

"5th. Where the bone is fractured in more than one point and accompanied with great laceration and contusion of the surrounding parts, or in cases where the bone is extensively exposed with the soft part separated from it, especially if the fracture be in the neighbourhood of an important articulation, and has been produced by the application of direct force.

"6th. In cases where the injury is not so extensive as in the instances mentioned, but is accompanied with the division of the principal artery and nerves, for though neither the division of the vessel, the laceration, nor the fracture may alone justify the removal of the limb, yet the whole together will frequently make it necessary."

Dr. Norris is in no degree an advocate of indiscriminate amputation,

and remarks that the risk of the operation itself should be duly considered in every case :—

“Since it by no means follows, as many seem to think, where these accidents terminate fatally in our attempts to save them, that life would have been preserved had the operation been done, . . . another cogent reason for giving to the patient the benefit of even the slightest rational doubt in determining upon the question of amputation.”

These remarks of course apply rather to civil than to military practice ; for in the latter, unfortunately, the exigences of war often render it imperative to make amputation the rule and an attempt at conservation the exception.

When it is determined in a case of compound fracture to make an attempt to save the limb, the surgeon's first care should be given to the arrest of hæmorrhage. If this be arterial, a tourniquet may be applied, but only temporarily, and every bleeding vessel should be carefully secured, both ends being tied if the vessel be of large size. Venous hæmorrhage may be controlled by rest and position, aided if necessary by the application of cold and moderate compression. Foreign bodies, including particles of dirt, shreds of clothing, and fragments of bone which are entirely detached, are next to be searched for with the finger and carefully removed, and the fracture should then be at once reduced, not however by the sudden application of force alone, but by moderate and gradual extension, aided if necessary by enlarging the wound or removing the protruding end of the broken bone. The latter measure, though very seldom called for, is regarded by Dr. Norris as a legitimate resource in cases in which the fracture is otherwise irreducible. Recurrence of displacement is to be prevented by placing the limb in a proper position, and by giving support “without the aid of tight bandages or great pressure.”

As regards *position*, Dr. Norris expresses a decided preference, in the case of the lower extremity, for the plan of extending the limb, “inasmuch as it is easier for the patient, as well as his attendants, and permits of less disturbance of the fragments, while its results are fully equal to any that can be attained by the position of Pott, or the semi-flexion of the knee with the patient on his back.”

In the case of the upper extremity, Dr. Norris directs that the part should be fixed on suitable splints, and the patient kept in bed with the limb supported on a pillow till after the subsidence of fever, when he may be allowed to move about with the part sustained by a sling.

“The important requisites for treating fractures successfully are coaptation and immobility, and in my judgment it matters little what particular apparatus is employed, provided it be made to fulfil these indications, and keep the limb quiet and firm, and admit of the dressings being removed and re-applied without giving pain to the patient, or moving the fragments. The simpler the appliances the better.”

When the laceration in the soft parts has been made by the protrusion of the bone, an attempt may be made to convert the case into one of simple fracture by bringing the edges of the wound together with strips of adhesive plaster, and afterwards applying a many-tailed bandage, or by adopting the old plan of imbuing a piece of lint in blood and allowing it to dry over the injured part. The lightest dressings only should be

employed in warm weather, and in winter soft poultices or lint wet with tepid water. Dr. Norris's experience has not led him to look upon well-made poultices with the aversion professed towards them by many modern writers. In case of profuse suppuration, or of troublesome venous or capillary hæmorrhage, the bran dressing is recommended; it is particularly useful in summer by hindering the deposit of the ova of flies, and by preventing in a great degree the odour that would otherwise arise from the wound. It may be supplemented by the addition of an ice-bag laid over the surface. Irrigation is sometimes of service in hot weather in the early stages of compound fractures which are attended with great laceration and contusion of the soft parts, but its indiscriminate use is condemned by Dr. Norris, who believes that its employment favours attacks of inflammation of the respiratory organs.

We observe with satisfaction that Dr. Norris still stands firm, and has in no degree yielded to the prevailing epidemic fondness for the starch bandage and other forms of the "immovable apparatus:"—

"That this treatment," he says, "in compound fractures has been in very numerous cases followed with good effects by its introducer and his pupils, as well as by its more recent advocates, cannot be doubted, but the frequent occurrence of severe inflammation, abscesses, gangrene, and want of union, and where cures occur, the deformities seen in the hospital services in which it has been used, leads me here, as in simple fractures, to condemn its general employment. Its chief value is, I think, to be found in its adaptation to military surgery. In civil practice it is particularly objectionable when placed upon the limb immediately after the occurrence of the accident."

During the early stages of a compound fracture the dressings should be examined twice, and renewed once daily, and this, as well as changing the bedclothes and body linen, should invariably be done under the surgeon's personal supervision, and not entrusted to nurses or other unskilled attendants. In fractures of the lower extremity the weight of the bedclothes should be kept from the foot by the use of a rack or cradle, and, when the leg is the affected part, the patient's comfort may often be promoted by suspending the limb in a fracture-box or by means of a suitable splint.

The various *complications* of compound fracture are succinctly considered by Dr. Norris, the most important being rupture of a large vein, nerve, or artery, previous disease of the bone, and concomitant luxation. Bleeding from a ruptured *vein* can usually be controlled by cold and pressure, with elevation of the injured limb; laceration of *nerves*, when amputation is not required, calls for the application of warm fomentations or poultices, with the free use of opium; rupture of a large *artery* is a most serious complication, and will often necessitate removal of the limb, though if other circumstances are favourable, an attempt may be made to save the part by tying both ends of the bleeding vessel, or if the source of hæmorrhage cannot be found by securing the main trunk at a higher point. Amputation is usually necessary when a compound fracture occurs in a previously *carious* or *necrosed* bone. When *dislocation* occurs as a complication of compound fracture every effort should be made to effect reduction before permanently putting up the broken bone.

Various secondary complications may arise during the treatment of a compound fracture. If the patient be attacked with *delirium tremens* the wound should be closed with adhesive strips and compresses of soft lint or charpie, and then the whole limb enveloped in a large and well-stuffed pillow held in place with a roller bandage. *Retention of urine* is to be guarded against by the use of the catheter; *erysipelas* to be met with suitable constitutional treatment and mild local applications; and early and free counter openings to be made to evacuate *collections of matter* in the neighbourhood of the wound. The presence of *maggots* is to be avoided by attention to cleanliness and by careful dressing; when present they may be got rid of by washing the part with cold water or weak vinegar and water, or by dressing the wound with preparations of carbolic acid, or tar or creosote ointment. *Excoriations and bed-sores* may usually be prevented by careful dressing, by bathing the parts with whisky or soap-liniment, and by relieving pressure by means of water-beds, air-cushions, soft pillows, &c., and by the application of kid spread with soap cerate. When bed-sores actually occur they must be treated as sloughing sores met with under other circumstances.

ART. 140.—*The Growth of Cicatrices from Wounds made in Early Life, and the supposed wearing out of Cicatrices.**

By WILLIAM ADAMS, F.R.C.S.

(*The Lancet*, November 29.)

In reference to the growth of cicatrices four casts were shown taken from the feet of the same child at an interval of six years and a half, and proved that a cicatrix on each foot had grown during that time fully an inch in length. The wound was made through an operation for the cure of club-foot when the infant was ten months old, by cutting away the loose skin which could be pinched up on the convexity of the club-foot, with a view of producing contraction by the cicatrix, to overcome the inversion of the foot. No tendons were divided. Mr. Adams afterwards cured the case when brought to him by tenotomy. The child came under treatment again six years and a half afterwards, and it was then seen that the cicatrices had each increased fully an inch in length. The next case was that of a young lady who, when a baby a year old, was operated on for a *nævus* by excision in the region of the breast. The scar left at the time was less than an inch and a half, but at nineteen years of age it was found to have increased enormously, measuring three inches in length, and varying from three-quarters of an inch to an inch and a half in width. These cases proved that when a portion of skin has been destroyed the cicatrix appears to be persistent through life, and to grow *pari passu* with the rest of the body, or rather with the portion of the body over which it may be placed. The increased size of the vaccination scars seen in the adult, as compared with the scars in children, and also the large bald patches seen on the scalp of the adult when small

* Read at a Meeting of the Medical Society of London, Nov. 17th.

nævi had been removed in infancy, were also alluded to by the author. With regard to the supposed wearing out of some cicatrises, Mr. Adams believed that the only scars which do wear out are those which result from superficial cuts, which do not penetrate through the deeper layers of the skin into the subcutaneous fat. When the deeper layers of the skin are divided, as in the lancet wounds of bleeding and in tenotomy operations, a gap is formed between the divided deeper layers of the skin, which retract in consequence of the abundance of yellow elastic fibrous tissue in its structure. Lymph is then effused in the gap, and while fibrous tissue is forming, the cicatrix structure is developed. Once formed, this appears to be a permanent structure, growing as the part grows, and we have no evidence to show that it is ever absorbed or undergoes any process of wasting. There are two reasons for this permanence of cicatrix tissue; first, that the tissue is sufficiently well organized to be able to maintain itself in the general nutrition of the body; secondly, that the cicatrix tissue is so widely different from the structure of the true skin that it never can become assimilated to it, or resemble it in either the naked eye or microscopic appearances.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 141.—*Two Cases of Amaurosis.*

By Dr. SAMELSOHN of Cologne.

(*Archiv für Ophthalmologie*, xviii. 2, p. 225; *Schmidt's Jahrbücher*, No. 3, 1873.)

The author reports two cases of amaurosis following excessive loss of blood. The first of these, in which there had been hæmatemesis, is of great interest, as the author records a favourable result of what has hitherto been supposed to be an incurable form of amaurosis.

A well-nourished man, now fifty-seven years of age, was affected four years ago with severe hæmorrhage from the stomach, which occurred twice in three weeks. This had been preceded by severe sharp pains at the back of the head and neck, especially on the left side. The hæmorrhage was accompanied by great prostration. After the second attack the patient found that he was totally blind in both eyes; the pains in the head ceased after the second attack and did not return. Nine months later vision returned and gradually improved, so that the man could go about without assistance. In this condition he came under the observation of Dr. Samelsohn, who made the following notes:—Both eyes from external appearance seem quite healthy; in the left eye there is total absence of central vision with excentric fixation; the field of vision is preserved below and internally, whilst above and externally the fingers cannot be counted when held beyond a foot from the eye. On the right side central vision is only impaired, whilst at the lower portion of the field vision is quite destroyed; at the inner portion, also, the sensibility is reduced. On ophthalmoscopic examination no abnormal

condition can be discovered beyond that the papilla presents a greyish-red coloration above, and externally on the left side, and over the whole of its upper half on the right side, the remaining portions in either eye being whitish. The patient was treated with iodide of potash, and a seton placed in the back of the neck. The visual defects were much relieved by this treatment, and at the end of six weeks had almost quite disappeared from the right eye. The patient, who was much satisfied with this improvement, returned at a later period, but no further change could then be made out.

A woman, aged thirty-two years, had aborted one month before, and suffered with excessive uterine hæmorrhage and fainting fits. She was subsequently attacked with fever which lasted for several days, and which was associated with severe pain in the head and ear on the right side. After the fever and pains had ceased she became quite blind in the right eye. Ophthalmoscopic examination of the affected eye revealed white atrophy of the optic disc with reduced vessels, and in the retina a small ecchymosis connected with a vein. Strychnine was administered, but without results. The author is of opinion that the very obscure loss of vision which sometimes follows hæmorrhage is dependent on a serous saturation of the optic nerve. The quantity of blood in the brain being diminished through hæmorrhage, the unyielding cranial capsule acts like a cupping glass on the intra-arachnoid fluid. When, subsequently, the vascular network is again filled, the fluid in the lymph-passages seeks a way out through the intra-vaginal space of the optic nerve, saturates the latter, and paralyses it through pressure.

ART. 142.—*On the Use of Strychnia in Amaurosis.*

By J. J. CHISOLM, M.D., Professor of Ophthalmic and Aural Surgery in the University of Maryland.

(*New York Medical Journal*, February.)

Dr. Chisolm records a case which not only shows the beneficial effects of strychnine in the treatment of amaurosis, but exhibits a remarkable tolerance on the part of the patient of this potent alkaloid. The case was that of a man, aged forty, who had been under medical treatment for four years for progressive optic nerve atrophy, both eyes being equally defective. It appears that he had been in the habit of indulging freely in tobacco and whisky, but although he afterwards abstained from both, and entered upon a long course of medical treatment, he lost rather than gained ground. When he came under Dr. Chisolm's care it was found by ophthalmoscopic examination that the retina was apparently healthy, but the optic nerve-discs were white. Although the patient stated that he had already tried strychnia, and had derived no benefit from its use, Dr. Chisolm determined to persevere in it, and bring about its stimulating effects without delay. He began with one-thirtieth of a grain of the sulphate of strychnia, but this dose was only the minimum, and as it was well borne it was increased by small additions from day to day, until the largest amount was reached

which the system could tolerate; the successive increase was $\frac{1}{24}$, $\frac{1}{20}$, $\frac{1}{15}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{7}$, $\frac{1}{6}$, and $\frac{1}{5}$ of a grain, and the interval of time required by the system to tolerate the largest dose, from the commencement of the treatment, covered the space of ten weeks. These doses were given three times a day, until one-tenth of a grain was reached. The constitutional effects of excitement of the nerve centres and stiffening of the leg and spine muscles were kept under control by modifying the dose, but a marked improvement in vision was manifested even within two weeks. The patient returned to his distant home, but was instructed to keep up the use of the remedy in full doses. An appreciable stimulation was daily experienced from one-half of a grain a day, continued for over five weeks, and the improvement in vision, although slow, was steady. The toleration of the alkaloid was now, however, so well established that the constitutional effects were no longer produced, and the improvement in vision seemed to be arrested, but the dose was again increased with the results of renewing the constitutional symptoms and further improving the sight. Eventually the vision was permanently improved, and in general health the patient was stronger and more vigorous than he had been for many years.

ART. 143.—*On the Treatment of the Superficial Affections of the Eye.*

By GEORGE CRITCHETT, F.R.C.S.

(*British Medical Journal*, August 30.)

The object of the paper was to endeavour to group the superficial inflammations of the eye under two primary heads, each presided over by a distinct set of nerves, and involving a distinct set of blood-vessels; also to show that each group required its own special system of treatment, which would be unsuited and even injurious to the other. A main object of the paper was an endeavour to define those cases in which astringent and caustic applications are indicated, and the converse.

The paper was followed by an animated discussion, sustained by Mr. Adams (Maidstone), Mr. de Méric, Dr. Jacob (Dublin), &c. All concurred in regarding atropine, rest, constitutional remedies, and especially pressure to the eye, as the chief and most reliable means of treatment; while opinions differed regarding the value of the setons as employed by Mr. Critchett. Mr. Adams advocated paracentesis corneæ and section of the ulcer in obstinate cases of irritable ulcer of the cornea.

ART. 144.—*Conical Cornea, with Hernia at the Apex.*

By F. WATERHOUSE, L.R.C.P. Lond., Bolton.

(*British Medical Journal*, August 30.)

The patient was a woman, aged forty-nine, in a low state of health. The disease was first noticed when she was in her twenty-fourth year.

Sight had been failing several years ; but she could read with both eyes until a few months before she came under treatment. Both corneæ were conical ; and the apex of the cone of the right eye having ulcerated, a large hernia had protruded, covered with recently deposited lymph. The central portion of the iris was also pushed forward to a vertical plane some distance anterior to the margin of the cornea, as could be seen when viewed from the side. Increased vascularity, pain, photophobia, and lachrymation were the inflammatory symptoms, and were sympathetically repeated in the left eye. Lunar caustic was applied to the protruding membrane. The upper eyelid was drawn forward and pulled over the staphyloma, and secured by plaster. Pressure was insured by pads of lint, well besmeared with belladonna extract, and bandaged down. Water was allowed to soak through the bandage every day, to moisten the extract. In ten days the dressings were removed, and the hernia was found much reduced. The same treatment was again pursued, and in five days the hernia had disappeared, leaving a cicatrizing ulcer. Mr. Waterhouse pointed out, among other points of interest, the rarity of hernia in these cases, and the fact that, although the results aimed at and attained were those for which the operation of Von Graefe was devised, vision was better in the left than in the right eye.

ART. 145.—*On the Linear Extraction of Cataract.*

By Professor MICHEL of Nancy.

(*Gazette Hebdomadaire*, No. 35, 1873.)

1. Linear extraction, or the making of a small flap, ought to be accepted as the general method in the operation of cataract.

2. Graefe's operation with iridectomy is not so free from risks as has been professed by German authors, and ought to be reserved for special and rare cases.

ART. 146.—*Report of a Case of Sympathetic Ophthalmia—Recovery.*

By HENRY POWER, F.R.C.S., M.B.

(*Royal London Ophthalmic Hospital Reports*, February.)

Mr. Henry Power relates a very interesting case of this in a delicate youth aged seventeen, and attributes the unusually fortunate result to the pupil being kept widely dilated from an early period, and to the free use of powerful tonics during the more active period of the disease. Whenever the atropia was intentionally or accidentally omitted, even for a day, so that the iris played over the capsule of the lens, an exacerbation of all the symptoms was sure to occur, a tag of adhesion was formed, pain was experienced, and the redness and watering of the eyes augmented. This was noticed over and over again. If the lymph

of which such tags of adhesion be really composed of white corpuscles, we might imagine the course of events to be that, owing to paralysis (reflex) of the vaso-motor nerves of the vessels of the iris of the sympathetically affected eye, these are congested and dilated, and in fact in the same state as those of the conjunctiva and sclera. So long as the pupil is widely dilated, they are rendered tortuous, and a certain amount of pressure is exerted upon them; but when the pupil contracts, these vessels become straight, and their delicate walls rub against the capsule of the lens, the friction causing or facilitating the escape of the white corpuscles, which constitute the adhesion, and thus the play of the iris is interfered with at one point. The nerves are here consequently dragged upon, pain with the reflex manifestations of intolerance of light, increased lachrymation and redness of all the vessels supplying the eye are induced, which again leads to fresh exudation, and thus the disease has a tendency to perpetuate itself.

The beneficial action of tonics, such as iron, strychnia, and quinia, is not very explicable on this view: the first constricting the walls of the smaller arteries, and thus diminishing the supply of blood to the part; the second strengthening and giving tone to the nervous system, while the third, as Binz and others have shown, materially influences the activity of movement and the escape of the white corpuscles of the blood.

ART. 147.—*On Irregularity of the Pupil in One-Sided Affections of Different Regions of the Body.*

By Dr. ROQUE.

(*Allgemeine Wiener Medicinische Zeitung*, No. 33, 1873.)

1. In a great number of one-sided acute or chronic affections, one may observe irregular dilatation of the pupil.
2. The greater dilatation corresponds to the side of the affection.
3. With a double-sided affection, chronic on one and acute on the other side, the more dilated pupil is on the side of the acute infection.
4. This irregularity is not always to be observed; it is constant only when the pupils are found in a dilated condition.
5. If the patient be treated by electricity, the pupils undergo unequal dilatation, that on the affected side to a greater extent.

ART. 148.—*On the Use of Atropine in the Treatment of Short Sight.*

By THOMAS WINDSOR, F.R.C.S.

(*Liverpool and Manchester Medical and Surgical Reports*, Manchester, 1873.)

Mr. Windsor's attention was first directed to the subject by the writings of Professor Schiess, some of whose statistics and conclusions are given. We are told, what has long been known to oculists, that

most myopic eyes are diseased, which is in direct opposition to the wide-spread general opinion that near-sighted eyes are especially good to last—an opinion which the observations of ophthalmologists should entirely dissipate. Myopic elongation of the globe is very often preceded, in the experience of Messrs. Windsor and Schiess, by spasm of the ciliary muscle, which they have found can be overcome by the methodical continued use of atropia, and the elongation of the eyeball, due to strained accommodation, can thus be prevented. The conclusions arrived at are: 1. Slight myopia may be entirely due to spasm of the ciliary muscle. 2. Many cases, in which the eye is elongated, are accompanied and made worse by spasm of this muscle. 3. After some time spasm is replaced by elongation. 4. Spasm of the ciliary muscle may be removed by the methodical use of atropia. 5. Myopia may be cured in some, and its increase prevented in other cases by this treatment.

ART. 149.—*A Case of Echinococcus in the Orbit.*

By Dr. H. SCHMID of Odessa.

(*Schmidt's Jahrbücher*, No. 2, 1873.)

The subject of this case was a soldier, aged twenty-eight years, who six months before had been suddenly attacked with severe pain in the supra-orbital region on the left side. This pain lasted for four months, and at the end of the third, prominence of the left eyeball was observed. At the time of the patient's admission into the hospital, the integument of the left upper lid was traversed by enlarged veins, and at the inner portion could be observed a deep red and somewhat prominent spot; the lower lid was red over its whole extent. The eyeball was turned outwards and upwards, and was protruded so far forwards that its anterior surface was nineteen millimetres in advance of the root of the nose, and twenty-eight millimetres in advance of the other eye, it could not be turned downwards. The connective-tissue about the lower portion of the eyeball was red and swollen. The pupil was large and fixed, and vision destroyed. The papilla of the optic nerve was hyperæmic. The cause of the exophthalmus was considered to be a new growth, which on digital examination could be made out along the whole of the lower margin of the orbit, and also near the inner canthus as a fluctuating swelling with not very defined margins; on eversion of the lower lid there was found a distinct protrusion of the conjunctiva, the space between the eyeball and the lower margin of the orbit having been obliterated. The case was diagnosed as one of hydatid tumour, and on this supposition an incision was made through the protruded conjunctiva. Some fluid was then forcibly discharged, and between the lips of the incision was presented a vesicular body, the membranes of which were torn during its extraction. The enveloping membranes were disposed in concentric layers, and on the inner surface of one vesicle a disc was found which was covered by delicate concentric stripes. Neither scolices nor hooklets were to be found. On a subsequent and more minute examination, small secondary vesicles were found in this

body. Eight days after the operation there appeared at the wound, which had hitherto discharged but a little pus, the membrane of an enormous vesicle. The eyeball went back immediately after the operation, and it soon regained its normal position; its movements, however, in a downward direction remained impaired. The patient partly regained the power of vision, and became able to count fingers at a distance of ten feet. Only the lower half of the field of vision remained defective.

ART. 150.—*Syphilitic Iritis.*

By C. R. DRYSDALE, M.D.

(*British Medical Journal*, August 30.)

The author believed that syphilitic iritis rarely occurred in adults before the fifth or sixth month after the inoculation of the poison. It was met with in about 4 or 5 per cent. of all cases of syphilitic infection. Having described the affection, he spoke of the prognosis, regarding which, he said, the practitioner should be cautious. In young adults, with very careful treatment, the prognosis was usually favourable. In double iritis, of course, it was less good; but even here, in adults under fifty, the prognosis was excellent if atropia were carefully used. In the treatment, he regarded atropia as the sheet-anchor; all other medicines, even iodide of potassium, being of very secondary importance. Atropia allayed the local sensitiveness, gave rest to the ciliary muscles, and prevented closure of the pupil. Sometimes one drop per diem was sufficient; in other cases, the application required to be made four or five times daily, according to the obstinacy with which the pupil contracted. Iodide of potassium was useful, if given in doses of ten, fifteen, or even twenty grains, daily.

ART. 151.—*On Plastic Inflammation of the Tympanum.*

By Dr. JOSEPH GRUBER.

(*Lehrbuch der Ohrenheilkunde.*)

After a description of the pathology of plastic inflammation of the tympanum, the author gives the treatment as follows:—

“We must endeavour to prevent the further development of the new-formed elements, or even to destroy them. For this purpose we possess various methods, according to the portion of the tympanum affected by the inflammation, and the condition of the ear in other respects. If the tube is chiefly involved we should seek to maintain its patency by the air-douche, or by the introduction of laminaria or other bougies; at the same time the pressure of the bougie may promote absorption. If the affection is slight in its degree, and has extended over the tympanic mucous membrane, benefit may be gained from injections of caustic potash (gr. $\frac{1}{2}$ —1 to 3j) daily, or at longer intervals; especially by these the epithelium is softened and brought to a speedier excoriation,

the air-douche being then brought into operation to aid the removal of the free product.

"In this form of inflammation also dilute acetic acid, used in a similar way, is sometimes useful in particular cases. Also, acetic ether, iodic ether, and vapour of hydrochlorate of ammonia, give satisfactory results, and in syphilis the vapour of weak solutions of perchloride of mercury (gr. $\frac{1}{2}$ —1 to 3j) is indicated. These solutions are to be syringed through the Eustachian tube by the catheter, or applied as spray locally by the very small catheter, which Dr. F. E. Weber recommends to be introduced completely into the tympanum.

ART. 152.—*On Perforation of the Membrana Tympani.*

By Dr. ALBERT BING, of Vienna.

(*Allgemeine Wiener Medizinische Zeitung*, No. 35, 1873.)

"The diseases of the ear which generally lead to perforation of the membrana tympani, are primary and consecutive inflammation of this membrane and also catarrhal and suppurative inflammatory processes of the middle ear which result in exudation of a morbid fluid and accumulation of the same in the tympanum.

"Whilst in the inflamed membrana tympani the solution of continuity takes place either through inflammatory softening and breaking down of the tissue, or by suppuration, the outer and the inner wall of an abscess formed in the membrane being both perforated, in accumulation of fluid in the tympanum, on the other hand, it is the pressure of this fluid which causes the perforation, the membrana itself being probably more or less sympathetically affected.

"With regard to the parts of the membrana tympani in which perforation may take place, most authorities who have specially considered this subject agree. Von Tröltsch states briefly that, 'loss of substance may affect any part of the membrana, but that it is most frequently met with in the lower and anterior portions, and when large, always in front.

"Moos has tabulated 122 cases of perforation of the membrana tympani resulting from suppurative inflammation in the tympanum, and concludes from these that there is no part of the membrana in which perforation may not occur, but that its most frequent seat is that part of the membrana which is exposed to the draught of air which passes into the tympanum through the Eustachian tube—namely, the anterior inferior quadrant which is opposite the ostium tympanicum tubæ.

"Gruber, relying on the results of minute examination, has made a close distinction. In one place he states that perforation of the membrana tympani almost always takes place in the course of acute myringitis, and that, according to his experience, it generally affects the lower half of the membrana, and the anterior as frequently as the posterior quadrant; sometimes it takes place at several spots simultaneously. In another place Gruber states that solutions of continuity in the membrana are usually found in the lower segment, and much more frequently in the anterior than in the posterior quadrant; usually on the

inner third of the radius from the insertion of the malleus to the periphery.

"We see, then, from the above that in many of those cases which first come under observation when already a large portion of the membrana tympani has been removed, the destruction originated probably in the anterior inferior segment; and it seems to have been sufficiently well demonstrated that perforation of the membrana occurs most frequently in the anterior inferior quadrant, especially in those inflammatory processes in the middle ear which result in accumulation of exudation within the tympanum.

"On inquiry into the cause of this localization we find that nothing is stated beyond the mere fact, with the exception of the explanation of Moos as to the rebound of the stream of air introduced through the Eustachian tube.

"This explanation is not, in my opinion, a correct one; I may say at least that it is not the only one to account for the above-mentioned phenomenon.

"The tympanic orifice of the Eustachian tube is placed on the anterior wall, the membrana tympani forming as such the outer wall of the tympanic cavity. The air which passes into this cavity through the Eustachian tube is therefore directed past the membrana tympani, and cannot strike its anterior inferior segment with any particular force as it would do, supposing the ostium tympanicum tubæ were placed opposite this part of the membrana. As Gruber has shown in his work on tension-anomalies of the membrana tympani, one may often find an opportunity of proving in suitable cases of aural disease that air introduced by Valsalva's or Politzer's method, or by catheterism of the Eustachian tube, into a tympanum containing exudation, will render most prominent the posterior superior quadrant of the membrana. One may also observe in a subject of chronic naso-pharyngeal catarrh during sneezing, that the air driven through the Eustachian tube strikes not the anterior inferior but the posterior superior segment of the membrana tympani, which latter segment during Valsalva's proceeding may sometimes be observed to become inflamed into a kind of bladder as large as a pea.

"It seems to me that the cause of the so-frequent localization of perforations of the membrana tympani to the anterior inferior quadrant is to be found in other anatomical and physical conditions, and especially in the peculiar manner in which the membrana tympani is extended at the inner margin of the osseous auditory meatus, and in the pressure action resulting from the amount and gravity of the accumulated exudation. It is well known that in the infant the membrana tympani is placed almost horizontally, and forms, with the upper wall of the meatus, but a very slight curve. With advancing development of the cranial bones it is bent downwards towards the vertical position; but it never becomes quite vertical, but is placed obliquely not only with regard to its height, but also to its breadth, so that it forms with the lower and anterior wall of the meatus an acute, and with the upper and posterior wall an obtuse, angle. The anterior and inferior margin of the membrana tympani is furthest from, and its posterior and superior margin nearest to, the outer orifice of the meatus. A line drawn vertically from the

upper pole of the membrana tympani will cut the lower wall of the meatus about six millimetres from the lower pole of the membrana. If the long axes of the two membranæ tympani be prolonged to the middle line of the body, they will form an angle of between 130° and 135° ; in adults the upper ends of the two membranæ are three inches and five lines apart, and the lower ends two inches and ten lines. The great inclination of the membranes may be conceived when it is learnt that the long axis on either side makes, with a line drawn through the intersecting point of the long axes of both membranes or through their nadirs an angle of $22\frac{1}{2}^{\circ}$.

"If a certain amount of exudation have accumulated in the tympanic cavity, pressure will be exerted on the membrana tympani. This pressure may be regarded as the result of two components, one of which, dependent on the amount of exudation, acts downwards and outwards by virtue of the above-described condition of the anterior inferior quadrant; whilst the other, on account of the small breadth of the fundus tympani in this region, and because the membrana tympani is not a stiff but a tolerably yielding membrane, works by the force of gravity directly downwards. The membrana tympani, therefore, at this spot is pressed downwards, and tends towards the horizontal position, and by the weight of the exudation is made to form a kind of bow, whilst the other parts of the membrana have to resist but a lateral and a lighter pressure. Consequently, the membrana tympani, if it have been more or less affected in sympathy with the morbid process in the tympanic cavity, will usually undergo changes in its physiological condition through the pressure which, as it acts most forcibly on the anterior inferior segment, will cause perforation at this rather than at any other part.

"The fact that perforation generally takes place in some part lying between the handle of the malleus and the cartilaginous ring, or (according to Gruber) at the inner third of the radius carried from the malleus and the periphery, is accounted for by most authors by the diminished thickness of the elastic elements of the substantia propria at this part, but in my opinion is due to the distance of the membrana tympani at this part from its insertion, the resistance of a stretched membrane to the pressure diminishing in relation to the distance from its seat of attachment. Cases, however, have been recorded in which the solution of continuity had taken place at the extreme periphery, and close to the inner margin of the cartilaginous ring.

"I will venture to make the following concluding remarks. A tympanic cavity filled with exudation is usually regarded as an abscess, and in order to give discharge to the contained fluid paracentesis of the membrana tympani is performed. In order to afford a ready outlet to mucus or pus an incision from one and a half to two lines long is made from below upwards in the posterior inferior quadrant of the membrana. Gruber advises that this should be done, even though perforation have taken place in the anterior inferior segment, when the exudation has accumulated in the posterior portion of the tympanic cavity, and when the membrana is pressed forwards. Recently, however, Gruber, in cases where perforation existed in the anterior inferior quadrant, has, with the best results, enlarged the orifice, by making an oblique incision, instead of forming a fresh outlet behind.

"I think that this kind of incision, carried along the lower periphery of the membrana tympani, from the posterior third of the anterior and over two-thirds of the posterior inferior segment, might be generally made with advantage in paracentesis of the membrana tympani. A peripheral and oblique gap formed thus will readily allow the discharge of exudation, even when it is viscid or semi-solid; and it has this advantage, that whilst it is being made there is hardly any danger of injury to important structures, even though the operator be inexperienced and the patient somewhat unruly. In the longitudinal incision from below upwards, the knife may readily be brought into collision with the joint between the incus and stapes."

ART. 153.—*On Excision of Nasal Osteomata.*

By M. MICHEL, of Nancy.

(*Gazette Hebdomadaire*, No. 25, 1873.)

1. Osteomata of the nasal fossæ may have for their seat an entire bone, as the vomer, the lachrymal, or the inferior turbinated bone.

2. One of the important stages of the operation consists in stripping away the Schneiderian mucous membrane from the whole surface of the tumour.

3. The hæmorrhage which occurs on resection of a portion of spongy osteoma proceeds from the medullary tissue, which fills the cavity of the growth.

4. This hæmorrhage may be readily arrested by removing the medullary tissue, and then plugging the cavities in which it was contained.

ART. 154.—*On Enlargement of the Tonsils as a Cause of Nightmare.*

By J. WARRINGTON HAWARD, F.R.C.S., Assistant-Surgeon
to the Hospital for Sick Children.

(*British Medical Journal*, June 7.)

The case which first led Mr. Haward to observe the fact was a very striking one. An intelligent, and not at all nervous, girl of thirteen years had for several months been subject to occasional attacks of nightmare, which were increasing in frequency and severity. A short time, usually about an hour, after going to bed, the child arose with a loud scream, and, on the parents going into the room, was found sitting up in bed, the eyes vacantly staring, and the face wearing an expression of extreme alarm. Although the eyes were open, she did not appear to be awake, and required moving and loudly speaking to before she seemed to appreciate the presence of those around her. She would then give a sigh, say that she had been frightened, she did not know by what, and presently fall asleep again. These attacks occurred sometimes several times during the night, and for several nights in succession, and then

were absent perhaps for some weeks, when they returned. She was a healthy-looking child, and had been nurtured with every care, and the parents were much distressed by these symptoms, fearing they might be premonitory of some serious cerebral affection. She had been treated without benefit by various medicines. She was brought to Mr. Haward in October, 1870, on account of an attack of stomatitis, and the parents then mentioned the occurrence of the nightmare. On examining the mouth it was noticed that the tonsils were greatly enlarged, and it seemed possible that the nightmare might depend on the obstruction to respiration thus produced, with the consequent non-aëration of the blood, and cerebral congestion. This idea was confirmed by the mother saying that she always snored loudly, and that the attacks were generally worse when she had a cold. As soon as she had recovered from the stomatitis Mr. Haward removed a portion of the tonsils, and from that time she has never had another attack of nightmare. Since the author has seen three similar cases, all in children, in each of which, after the removal of the tonsils, no recurrence of the nightmare took place.

ART. 155.—*Melanotic Tumour developed in the
Neighbourhood of a Congenital Mole.*

By FRANCIS MASON, F.R.C.S.

(*British Medical Journal*, August 30.)

The patient was a man, aged sixty-four, an inmate of St. Thomas's Hospital, who had had through life a congenital mole, about the size of a small pea, on the right cheek, an inch from the angle of the mouth. A year before he came under observation he noticed a pimple in close proximity to the mole. The pimple steadily increased to the size of an orange. On admission the tumour was a soft fungating mass, from which a sanious inoffensive fluid exuded. Manipulation gave no pain. At the lower part of the tumour the congenital mole was observed isolated, and apparently distinct. Several glands in the submaxillary region were enlarged, but they were not painful to the touch. The tumour was removed by Mr. Mason by an incision around the circumference. A perfectly healthy surface was left. The edges of the wound were brought together with hare-lip pins. An attempt was made to remove the enlarged glands, but, on applying the fingers to enucleate them, the capsules burst, and it was found impossible, as important structures were involved, to remove the whole of the diseased structure. A microscopic examination of the tumour and glands confirmed the opinion as to their melanotic character. Recovery was rapid, the patient leaving the hospital about a fortnight after the operation. Mr. Mason had learned that in July the man was in every way quite well, following his employment as a labourer. The patient's photographs before and after the operation, together with a microscopic drawing by Mr. Arnott, were exhibited.

ART. 156.—*On Stricture of the Œsophagus.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(The Lancet, October 25.)

At a meeting of the Medical Society of London, October 20th, Dr. Richardson read a paper "On Stricture of the Œsophagus," giving a general recast of his clinical experience on the subject, and detailing ten cases which had been under his care, in all of which the disease had been of a malignant character, and he had been able to trace a history of the taint; he recognised the strictures due to spasm, and dwelt briefly upon them, but believed persistent organic strictures of the Œsophagus to be malignant, and in most cases to possess the history of a cancerous taint. He described their development, diagnosis, progress, and treatment, giving very minutely the points for the differential diagnosis between stricture of the Œsophagus from organic change, from thoracic aneurism or abscess, and from tumours pressing upon the tube. His experience had shown the disease to affect both the sexes equally, usually appearing about the middle period of life, the youngest of his cases being twenty-two, the oldest fifty-five; that the constriction was most commonly situated in the middle third of the tube, and generally made painless progress until it caused obstruction to the passage of food, which symptom was frequently the first that called the patient's attention to the disease. The author dwelt upon the expression of great mental depression which was present in these cases, the whole of which progressed to a fatal termination. He said, with regard to treatment, that the use of bougie or tube for the purpose of dilatation must only be secondary to its use for the introduction of nourishment; that every attention must be paid, in the administration of food by the stomach and rectum, to the introduction of only such matters as could be absorbed by the respective mucous membranes in contact with which they were placed. He considered that dilatation in these cases was often even fatally wrong, and gave the account of one striking instance in which its attempt proved so. To facilitate the efficient introduction of nourishment into the stomach in these cases he employed a bottle constructed like Wolfe's, from which the quantum of well-warmed fluid was propelled by the action of a small bellows; the same apparatus could be used for the administration of enemata by the patients so long as they retained the requisite power. Dr. Richardson exhibited an Œsophageal tube, constructed with a central finer slightly longer tube, through which fluid might be injected into the stomach in those cases in which gases would prevent its entrance unless an opportunity were afforded for their exit at the same time. He showed a short tube which he had designed with a view of its being introduced upon a stilet till its upper end was below the glottis; it should be worn during the swallowing of a meal, subsequently to be withdrawn by a cord attached to its upper end. The inventor thought that the necessary manipulation for the use of this instrument might be acquired by a patient. When it was desirable to dilate a constriction of the Œsophagus, he considered that pressure should be applied only in a lateral direction, and not at all in a downward one. With this

view he had contrived an instrument, one part of which was constructed so as to be capable of distension by the injection into it of air or water. He spoke of the bougie introduced by Mr. Durham as being the best he had met with for the œsophagus; mentioned the importance of maintaining the warmth of the body, stating that a decreasing temperature had marked the progress of his cases, and was not unfrequently followed by rapidly fatal coma. From what he had gathered he was strongly adverse to the employment of gastrotomy in these cases.

ART. 157.—*A Method of Removing the Tongue.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Mr. Jordan has removed the tongue three times by a combination of steps which, he says, constitute a new operation. First, the cheek is divided backwards to the vertical ramus of the jaw, then the root of the tongue is seized by the finger and thumb of one hand, while the other passes under it a strong curved needle carrying stout cords, the cords are left in the channel made by the needle, which is withdrawn; next the chains of two *écraseurs* are drawn, one after the other, through the channel by means of the cords; then one chain is tightened over the dorsum of the tongue, close to the faucal pillars, the other deeply at the floor of the mouth, and both are untied simultaneously and slowly; next, if there be any hæmorrhage at all, there may be needed a touch or two of a pointed cautery or the application of the perchloride of iron; lastly, the wound of the cheek is brought together. The patient is supported by the rectum for two or three days, only a little iced water is given by the mouth. Care must be taken that the *écraseurs* are not locked—a simple matter if thought of before they are tightened.

ART. 158.—*On Tuberculous Ulceration of the Tongue.*

By Dr. PAUL HYBORD.

(*Archives Générales de Médecine*, Septembre, 1873.)

“All authors on the subject do not agree concerning the true nature of tuberculous ulceration of the tongue; some consider it as a cachectic ulceration occurring in a tuberculous patient, and analogous to the ulceration occasionally met with in the larynx or pharynx during the course of phthisis; others, with Trelat, Bourcheix, Féréol, and Verneuil, regard it as an ulceration consecutive to the deposition of veritable tubercles. The latter opinion seems to have the most support at the present day, and is based on clinical facts and histological research. As is always the case, there is a third intermediate opinion held by Julliard, who thinks that the so-called tuberculous ulcerations are of

two kinds ; some being cachectic ulcerations attacking a subject of a more or less advanced tuberculous disease, the others being due to softening and ulceration of true tubercles. For my own part I do not agree with Julliard, and think that one must adopt one or the other of the two former theories ; I do not hesitate to say that Trelat's view ought to obtain priority, it is supported by so many well-studied facts. It cannot, indeed, be asserted that other ulcerations save those due to ulcerated lingual tubercles may not be found in the tongue of a tubercular subject, but the former variety of ulceration may be recognised by a collection of different symptoms, to which I will again return. But it is well known that the ulcers of a subject of advanced phthisis are not tuberculous. I would give to them the name of cachectic ulcerations, reserving the denomination of tuberculous ulcerations for those that are consecutive to the deposition of small softened tubercles. One may thus avoid all confusion.

“Tuberculous ulceration may be met with on any part of the surface of the tongue, but especially on the upper portion of the organ, whence it may extend to the margins or even be prolonged over the inferior surface. In some cases the tongue alone is affected ; in others the neighbouring organs, as the velum palati and the tonsils, simultaneously participate in the affection, and present analogous lesions.

“Multiple ulcers are very rarely met with on the tongue ; when the ulcers are multiple they do not long remain so, but soon run together and form a single ulcer. This is how the lesion is formed : there is first seen on the surface of the tongue small yellow and slightly prominent growths, which are distinctly circumscribed and each of the size of a pin's head. These growths are sometimes larger, and form small patches from one to four millimetres in diameter, of a bright yellow colour, and resembling at first sight phlegmonous pus. These points and patches when examined under the microscope present all the characters of tubercular granulations. Around each deposit the mucous membrane is slightly reddened and swollen. After a period, the duration of which cannot be absolutely fixed, the epithelium covering the deposits is destroyed, the subjacent tissue is also involved in this destruction, and ulceration is then established. Many of the small deposits then unite, and one may observe then an ulcer which occupies a more or less considerable extent of the lingual surface.

“This ulceration when once established is sometimes distinct and rounded, at others presents an irregular form ; the margins, often prominent, are sometimes rounded and of a bright red colour ; they never overhang, nor are they sharply cut. When the ulcer is superficial, its surface is smooth, long, covered by small granulations, each about the size of a millet seed ; but when it is deep-seated it presents a greyish coloration with a yellowish tint ; finally, the whole lesion rests upon a firm and prominent base. The tissue surrounding the ulcer is the seat of a morbid change, which, according to Trelat, should have a capital importance in diagnosis, and the more when this peculiarity is presented during the whole course of the ulcerative evolution. The red and swollen mucous membrane just around the ulcer is studded with those yellow deposits to which I have just directed attention. It is through these that the affection both commences and extends. These deposits

seem to be peculiar to tuberculous ulcerations, and Trelat unhesitatingly regards them as a pathognomonic sign.

"Concurrently, analogous lesions may be observed in neighbouring organs. As functional disturbances, these ulcers present nothing special; I should, however, mention the presence of thick, viscid, and foetid mucosities which the patient discharges only after numerous and fatiguing efforts; finally, auscultation will reveal in a great number of cases the existence of tuberculous lesions in the lungs. The latter, however, may be absent, at least at first, the lingual ulceration then constituting the earliest apparent symptom of the tubercular diathesis.

"Such is the physiognomy of tuberculous ulceration of the tongue.

"The progress of this ulceration is slow and chronic; the affection may remain stationary for a time, but it soon extends again. A tuberculous ulcer may possibly heal, but such an event is very rare. In one case observed by M. Verneuil, a tuberculous ulcer had closed and cicatrized, and after a treatment, lasting for two and a half months, the patient was discharged completely cured. He returned, however, with symptoms of thoracic disease, which had subsequently become much developed; the lingual cicatrix was found to be distinct and very complete, and never broke down into renewed ulceration.

"With the knowledge which we possess at the present day, the diagnosis of tubercular ulceration of the tongue is very easy; according to Trelat, it is owing to the presence of the yellow deposits, possible at any period. If one add the existence of characteristic lesions on the part of the lungs, the almost general absence of glandular engorgement and of any antecedent specific disease, and the presence of a non-vegetating and non-hæmorrhagic ulcer, there need scarcely be any indecision in the diagnosis, or any confusion of this affection with cancerous or syphilitic ulceration. There are some cases, however, in which the diagnosis remains uncertain, and certain circumstances may complicate the affection, and mask or modify the primary lesion.

"I may take the opportunity in this place of justifying the distinction which I have established between the tuberculous ulcer, properly so called, and the cachectic ulcers. They may, I think, be differentiated by the following characters:—Cachectic ulceration occurs in individuals who have attained an advanced period of the tuberculous diathesis, a condition which is not always necessary for the formation of the proper tuberculous ulcers; tuberculous ulcers are generally single—cachectic ulcers multiple; cachectic ulceration is never accompanied by deposit of yellow growths, which is special to tuberculous ulceration; the latter presents, on histological examination, the characters of miliary tubercle; whilst the former, on the other hand, is constituted by inflamed and ulcerated lingual follicles which have not undergone any tubercular change; finally, tuberculous ulceration is susceptible of cure, though very rarely; cachectic ulceration, on the other hand, persists as long as the cause which has engendered it, and is scarcely modified by the local treatment.

"Hitherto the treatment of tuberculous ulceration has not been attended with very good results. It has consisted in cauterization with nitrate of silver, tincture of iodine, and the red-hot iron, in gargling with chlorate of potash, and, finally, in the local application of chromic

acid. With the exception of chromic acid, which has given unexpectedly good results in M. Verneuil's practice, these agents have produced but little amelioration."

ART. 159.—*On Resection of the Lower Jaw.**

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 31, 1873.)

Some years ago M. Verneuil published a memoir, in which he pointed out certain modifications in operations performed on the face. He endeavoured then to guard against the penetration of blood into the respiratory and digestive passages. The presence of blood in the digestive passages causes vomiting and excites colic, and its presence in the air-passages constitutes a much greater danger. The fear of these accidents has induced some surgeons to deprive the patient of the benefits of chloroform, so that the blood, when it has been taken in, may be rejected through cough and vomiting. M. Verneuil communicated to the Academy of Medicine a memoir on preliminary plugging of the nasal fossæ, and has since practised this a great number of times. In this memoir he did not deal only with operations on the mouth and lower maxilla, but he pointed out also that the penetration of blood into the aërial and digestive passages might be avoided by combining the incisions in such a manner as not to open the buccal cavity until near the end of the operation.

Since the publication of this memoir, M. Verneuil has collected observations which permit him to recommend a modified proceeding for operations on the lower jaw. German surgeons have proposed preventive tracheotomy, with plugging of the larynx, in operations for extirpation of facial tumours. This proceeding may be regarded as objectionable. When there is a risk of much hæmorrhage, preliminary deligation may be performed. To preliminary deligation of the external carotid, however, M. Verneuil's method is much to be preferred.

A male patient had a hyperostosis of the horizontal ramus of the lower jaw of fifteen years' duration. This man, who was advanced in years, had good health; the tumour extended backwards as far as the pharynx, and the tongue was much elevated and applied to the hard palate; the tumour was of double the size of the fist. The patient having been put under the influence of an anæsthetic, an incision was made along the lower margin of the jaw, from one masseter to the other. The lower lip was then dissected upwards as far as its union with the mucous membrane, and the lower flap dissected downwards without opening to the mouth; the two angles of the jaw were then exposed. M. Verneuil then introduced a canulated sound, and perforated the mucous membrane at two spots only, in order to pass a stilet armed with a chain saw; this was applied at each angle of the jaw. In order to detach the tumour from the base of the tongue, the chain of an *écraseur* was applied by means of a curved trocar, and the

* Communicated to the Société de Chirurgie, Paris.

superior surface of the exostosis was detached from the tongue by the same means. The tumour was now fixed merely by a portion of buccal mucous membrane, which was readily divided by scissors. During this operation but a few drops of blood had penetrated into the mouth.

M. Verneuil has since applied the same precept to other operations on the lower jaw. An external curved incision along the inferior margin of the maxilla; dissection as far as the mucous membrane; dissection of the lower flap, puncture of the mucous membrane in order to admit the passage of the chain-saw; division of the bone; precautions being taken not to open the buccal cavity, except at the end of the operation, when the mucous membrane is divided by means of scissors. M. Verneuil has made partial resections of the superior maxilla, and preserved the velum palati. In those cases where the tumour does not involve the nostril, he practises preliminary plugging of the nasal fossæ. In total disarticulation of the superior maxilla he defers the section of the velum palati until the last stage of the operation.

M. Verneuil has practised preliminary plugging about a dozen times; the patients generally respire well, notwithstanding the chloroform; one nostril only is plugged, and care is taken to keep the patient's mouth open and the tongue protruded. Chloroform is very useful in these operations; indeed, when the patient cries out, hæmorrhage becomes more considerable. M. Verneuil does not concern himself so much with the quantity of blood that is lost, as with the penetration of blood into the digestive and aërial passages.

ART. 160.—*Removal of a Cystic Bronchocele.*

By ARTHUR E. DURHAM, F.R.C.S.

(*British Medical Journal*, March 15.)

Mr. Durham gives a short notice of a case in which he removed a "cystic bronchocele" from the neck of a woman thirty-six years of age, but looking much older. The tumour had first appeared five years previously, after a blow; it had grown until it had become as large as a nut, and had remained about that size for a considerable period. About a year ago it had begun to increase very rapidly, and latterly having attained the size of a large orange, it had very seriously impeded her breathing. Various methods of treatment had been tried, but without good effect, and the health and strength of the patient were quite broken down. She was much wasted and very weak, and suffered from severe dyspnœa and some difficulty in swallowing. Under these circumstances she was admitted to Guy's Hospital, and Mr. Durham determined to attempt the removal of the tumour.

A vertical incision having been made through the skin, just on the left of the median line from over the hyoid bone to over the upper border of the sternum, two catgut ligatures were applied, one to the upper and one to the lower part of the anterior jugular vein, which ran down in the middle line over the tumour, and which was very much enlarged and distended. The fasciæ and connective tissue were next divided, layer by layer, until the tumour was reached; then by the aid of the finger

and a blunt instrument, with a few occasional touches of the knife, the tumour was very readily turned out and removed. It was only loosely connected with the larynx and trachea, but had some firm, fibrous connexions with each lobe of the thyroid body, especially with the left. On the right side its lower border rested in the bifurcation of the innominate artery. There was very little blood lost during the operation (not more than two or three drachms). The wound was closed by sutures, &c. When removed, the tumour measured ten inches and a half in circumference. It was found to consist of hypertrophied thyroid body structure, including numerous minute cystic dilatations, and almost entirely surrounding a large irregular cystic cavity, which contained about five ounces of fluid. This fluid was serous in character, deeply tinged by blood-colouring matter, and containing an immense quantity of cholesterine. The tumour appeared to be the whole isthmus of the thyroid body in a diseased condition. The right and left lobes of that body were seen, but appeared healthy.

Mr. Durham states that the after progress of this case was most satisfactory. The day following the operation the patient was perfectly comfortable, breathing much more freely than she had done for months previously. The improvement in her complexion and general aspect was very striking. The wound healed by primary union, scarcely a drop of pus appearing even in the situation of the sutures. Health and strength were rapidly regained, and the patient is now well.

ART. 161.—*The Treatment of Certain Forms of Bronchocele by Injections of Iodine.**

By MORELL MACKENZIE, M.D.

(*British Medical Journal*, August 30.)

In a former paper, the author had described in detail the various methods applicable to the several kinds of enlargement of the thyroid gland. In discussing the treatment of fibrous bronchocele in the article referred to, he did not do justice to the method recently introduced by Professor Lücke, of Berne. A larger experience, made under more favourable conditions, had convinced him that the treatment of certain forms of bronchocele by the subcutaneous injection of iodine into the substance of the enlarged gland, was of the greatest value. The following was the plan of treatment which, in accordance with Dr. Lücke's recommendation, the author had employed. Thirty drops of the officinal tincture of iodine were injected into the substance of the gland once a week for the first two or three weeks, and afterwards, once a fortnight, as long as was necessary. It was well to give iodide of potassium internally at the same time; but no medicine was given to any of the patients whose cases were now related. The advantages of the treatment were, that it did not cause any constitutional disturbance or

* Read at the Forty-first Annual Meeting of the British Medical Association.

local irritation (suppuration). In this respect, it was preferable to treatment by setons and caustic darts. The only disadvantage of the method was its slowness; this, however, could scarcely be considered a drawback, except when the enlarged gland caused dyspnœa. The cases which were briefly related had been taken indiscriminately as they presented themselves, or were found in the case-book of the Throat Hospital on July 24th. Of the sixteen cases, fourteen were fibrous, and two adenoid, or soft. Fourteen patients were females and two males. Eleven were completely cured, in four a considerable reduction resulted, and one case completely resisted treatment. In one case the neck was reduced by $3\frac{3}{4}$ inches in less than six months; in two cases a reduction of $2\frac{1}{2}$ inches took place. The duration of treatment varied from one to eight months, the average being four months. The author concluded by remarking that the treatment of cystic cases by injections of iron, as previously recommended by him, was, of course, much more rapid, and therefore more striking; but the fibrous cases were undoubtedly the most difficult to treat of those varieties met with in practice.

In reply to questions by Mr. Berkeley Hill, Mr. Hey (Leeds), and Mr. Meade (Bradford), Dr. Mackenzie added that suppuration had not occurred in any case where the injection had been made into the gland itself. The failures of the treatment were five per cent. Mr. Meade's treatment by division of the fascia in the central line, where symptoms of dyspnœa indicated mechanical pressure, had been found successful in alleviating this.

ART. 162.—*On Ligature of the Common Carotid in Rupture of the Middle Meningeal Artery.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

There is a kind of compression of the brain, Mr. Jordan writes, which, though not common, occurs from time to time. A severe injury to the head is attended with concussion, and then subsides, but in a few hours, with reaction, signs of paralysis set in, and slowly and gradually proceed to a fatal issue. We know not only that the middle meningeal artery is ruptured, but also which. When the opportunity occurs, the diagnosis clear, and the surgeon at hand, Mr. Jordan thinks a ligature to the common carotid might avert an otherwise certainly fatal issue.

(B) CONCERNING THE TRUNK.

ART. 163.—*On the Operative Treatment of Stricture of the Urethra.*

By THOMAS ANNANDALE.

(*Edinburgh Medical Journal*, August.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, 2nd April, Mr. Annandale read a paper "On the Operative Treatment of Stricture of the Urethra." He pointed out the value of quinine in

checking rigors, given in doses of from five to twenty grains. He divided permanent stricture into three varieties:—

1. Simple organic uncomplicated.
2. Organic stricture with constant or constantly recurring spasm.
3. Complicated by (1) complete retention, unrelievable by catheter; (2) obliteration of urethra; (3) urinary infiltration and abscess and fistula; (4) calculus in bladder or urethra.

Operative procedures were divisible into—

- | | |
|----------------------------|-----------------------|
| A. Dilatation. | C. Internal division. |
| B. Splitting or rupturing. | D. External division. |

Simple uncomplicated stricture was best treated by gradual dilatation—rapid dilatation not being so satisfactory. Metallic instruments were better than softer instruments. A fine whalebone instrument was more useful, on account of its rigidity, than gum-elastic bougies. Splitting or rupturing were not advisable in this form of stricture, because, in his opinion, recontraction followed more rapidly than after gradual dilatation. Internal and external division were not necessary in simple uncomplicated stricture.

In organic stricture with spasm, Mr. Syme at one time frequently employed external division. Holt's and Thomson's methods were both good, but the author recommended internal division on account of the immediate good result, and the complete disappearance of the spasm. He had operated on six cases. Five had been completely successful: the sixth died. In the fatal case, the patient, on admission, had frequent rigors, which he attributed to ague, from which he had suffered in Canada. The patient died six days after the operation. The post-mortem revealed old-standing suppuration in the region of the prostate, and numerous false passages. There was a superficial clean cut into the stricture. The patient died of pyæmia, which he did not think was altogether due to the operation.

Mr. Annandale showed various instruments used for internal division. He recommended an instrument which he had obtained from New York (Dr. Gourlay's), which resembled the instrument recommended by Maisonneuve. An elastic guide is first passed through the stricture. A grooved staff is then passed, along which a triangular knife is directed, which cuts both from before backwards and from behind forwards, freely dividing the stricture. A silver catheter is then tied in for twenty-four hours, and a No. 12 bougie is passed occasionally afterwards. In all the cases the stricture was posterior; in none had he met with hæmorrhage or infiltration of urine.

In the worst forms of organic strictures with complications, Mr. Syme's plan of external division was necessary, or a No. 10 bougie might be passed down to the stricture as a guide, and the urethra opened, the stricture searched for, a fine grooved staff passed from the opening into the bladder, on which the stricture could be freely divided.

Dr. Bell highly approved of Mr. Syme's operation. He did not approve of internal division; it was, pathologically, a bad operation. He believed in vital dilatation and external division. Internal division was unphilosophical and unsatisfactory.

Mr. Annandale, in reply, stated that no plan of cure was permanent.

The relief of spasm after internal division was analogous to the relief of spasm of the sphincter ani after division of a few fibres of the muscle. He had seen internal division followed by results which he had never observed follow any other plan of treatment. He had ample experience of all plans of treatment.

ART. 164.—*Ice as a Remedy in Stricture.*

By M. CASENAVE.

(*Gazette des Hôpitaux*, No. 64, 1873.)

M. Casenave recommends the use of ice in cases of retention of urine from stricture, or from enlarged prostate, and even as a mode of treating the accidents which may follow lithotomy and lithotripsy. He introduces a piece of ice of an elongated oval shape, and as large as a chestnut, within the anal sphincter, and renews it every hour. He claims for this mode of treatment the advantage of soothing pain, relieving spasm, subduing inflammation, rendering the passing of urine more easy, and thus giving the surgeon time to treat the patient by constitutional means, and prevent him from having recourse to catheterism or urethrotomy at a time when the parts are inflamed, and in a state liable to further mischief.

ART. 165.—*Retention of Urine with Dribbling, from Impassable Stricture, successfully treated by Leeching and Filiform Whalebone Bougies.*

(Under the care of Mr. TEEVAN at the West London Hospital.)

(*The Lancet*, September 27.)

The following case serves to illustrate the good that may be done by patient perseverance in the treatment of even the smallest strictures of the urethra; and it also affords, as Mr. Teevan has pointed out, valuable evidence of the respective merits of the metal and the flexible instrument. After the use of the former there were always severe rigors, but only once after the use of the latter. Doubtless, the great exciting cause of the rigors in this patient was the fact that he had previously suffered from intermittent fever, which generally alters in some way the stability of the general system, all subsequent affections partaking more or less of the characters of ague.

A. B——, a muscular but delicate-looking sailor, aged twenty-six, was put under Mr. Teevan's care, at the West London Hospital, by Dr. Atwood, on May 22nd. The patient stated that eight years ago he first contracted gonorrhœa, and that he never got rid of the subsequent gleet. Six years ago, whilst ashore, he had an attack of retention of urine, after drinking, which was relieved by the catheter; and shortly afterwards he had a similar attack. Three years ago he noticed that the stream of urine was much diminished in size, and that the act of micturition was

only accomplished after much difficulty. Two years back the urine commenced to dribble away, *guttatim*, night and day, so that he was obliged to discontinue wearing white trousers. Has suffered much from yellow fever and ague whilst serving on the West Coast of Africa and in South America. At the present time the patient is unable to empty his bladder, the urine dribbling away continually and saturating his clothes.

May 27th.—As Mr. Teevan had failed, after repeated attempts, to introduce any instrument into the bladder, four leeches were put on the patient's perineum and allowed to bleed freely. The same night the patient had an attack of rigors, which was followed by another the next afternoon, both caused by the previous instrumentation.

29th.—10 A.M.: This morning Mr. Teevan succeeded in introducing one of the finest filiform whalebone bougies into the bladder, and left it in for thirty-six hours. Its presence gave rise to no inconvenience.

June 2nd.—A No. 5 (French gauge) olivary whalebone bougie was introduced at 9 A.M., and kept in for twenty-four hours.

On the next day, a No. 7 elastic bougie olivaire was passed but not left in. The patient has begun to pass a fine stream occasionally, and the dribbling is much less.

4th.—A No. 9 elastic conical bougie was passed, and left in for an hour.

9th.—The patient is now free from dribbling. The same instrument was passed to-day as on the last occasion.

11th.—Nos. 3, 4, and 5 English metal catheters were passed with ease; much blood came away afterwards, and rigors came on at night.

14th.—No. 6 English metal catheter would not pass. There was much bleeding some hours after, and at night the patient had an attack of rigors.

25th.—No. 6 English metal catheter passed easily.

On the 28th No. 15 French olivary bougie was passed, but on the 30th the corresponding size in metal would not pass, and was followed by an attack of rigors the same evening.

July 5th.—No. 15 French olivary catheter was kept in for twenty-four hours, and was followed the next day by a slight attack of rigors.

9th.—Nos. 16, 17, and 18 French olivary catheters were passed.

12th.—No. 18 ditto passed.

The patient was now taught to use the instrument himself, and he left the hospital quite well on July 21st.

Mr. Teevan remarked that there were few strictures, however severe, which would not yield to a combined assault with leeches and filiform whalebone bougies, and they could be employed on the most diseased subjects without the slightest fear. They would also, as a rule, obviate any recourse to operative procedures. Rest and warmth would often do much for a severe stricture, but if the surgeon trusted to them alone he would usually be doomed to disappointment. When treating in-patients he combined continuous with gradual dilatation, in order to expedite the cure. As the patient had served in tropical climates, and had recently suffered from ague and yellow fever, he was peculiarly liable to experience rigors from the manipulation of instruments, and consequently his case was well adapted to illustrate the comparative

merits of metal and elastic instruments. Rigors were almost unknown after the use of the latter, but they were by no means rare after the former. This case proved no exception to the rule, for rigors usually followed the introduction of the metal catheter, but on one occasion only did any shivering ensue after the passage of an elastic instrument.

ART. 166.—*A New Urethrotome for Incising very Narrow Strictures.*

By BERKELEY HILL, F.R.C.S.

(*British Medical Journal*, August 30.)

The instrument, constructed by Coxeter, consisted of a slender sound, less in diameter than No. 2 catheter, grooved along its stem. The groove, deep for six inches of its length, gradually became shallow, so as to turn out a knife attached to a rod passed along the groove. By this means a cutting edge was made to project for half an inch or less, if necessary, against the floor of the urethra. By drawing the whole instrument forwards the keen edge was brought against the stricture, and cut it through from behind forwards; the knife then returned to the groove, and the instrument could be harmlessly removed from the urethra. A subsidiary adaptation of the instrument rendered it capable of being guided through extremely narrow strictures, and also of showing exactly the position and extent of the contraction to be overcome.

ART. 167.—*On the Restoration of Perineum and Sphincter Ani ruptured during Labour.*

By T. P. TEALE, M.B., F.R.C.S., Leeds.

(*British Medical Journal*, August 30.)

In this paper Mr. Teale described the mode of operation which he has found the most satisfactory. His chief efforts aim at giving solidity to the newly made perineum. This he attains partly by making the raw lateral surfaces, which are to be brought together by the quilled sutures, broad towards the rectum, and chiefly by dissecting up the vaginal membrane, which rests on the rectum as a triangular flap, with its blunt apex forwards and its attached base backwards. This raised flap is kept in apposition with the vaginal edges of the apposed lateral raw surfaces by means of the stitches of the quilled suture.

ART. 168.—*On Warts.*

By S. M. BRADLEY, F.R.C.S., Manchester.

(*British Medical Journal*, August 30.)

In this paper the attempt was made to establish the essential oneness in origin of all morbid growths characterized by the abnormal develop-

ment of epithelial elements, such, *e.g.*, as scirrhous, epithelium, epulis, and common warts. The author stated that the simplest of these tumours may involve the more complex by the agency of external forces, such as irritation, pressure, &c. (the influence of heredity is probably always great in determining the exact nature of the morbid product); and that the power and rate of infiltration and invasion of the general system is due to simple laws, such as the size and shape of the cell, their degree of moisture, and the nature of the surrounding tissues. He maintained that as electricity, by coagulating the albumen of a part, establishes a barrier to the onward march of the cell elements, it should, therefore, be employed in all cases of infiltrating tumours when it is decided to eradicate the growth.

ART. 169.—*Case of Double Ventral Hernia.*

By E. WOAKES, M.D., Luton.

(*British Medical Journal*, August 30.)

The case occurred in a man aged sixty-one, the herniæ making their appearance about two inches above the umbilicus, and on each side of the median line, during recovery from an attack of ascites. When seen the tumour of the right side was strangulated, irreducible, and the symptoms urgent. He was operated upon under chloroform, and progressed without a bad symptom till the fifth day, when, in the effort of defecation, the left hernia became strangulated. His condition becoming rapidly threatening, taxis after ice proving abortive, he was operated on a second time under chloroform. Severe peritonitis occurred, but he ultimately recovered, his condition being for several days precarious.

ART. 170.—*Radical Cure of Rupture.*

By JOHN WOOD, F.R.S., F.R.C.S., Professor of Surgery in King's College, London.

(*British Medical Journal*, August 9.)

Professor John Wood, in his address on surgery, remarked, "I have long thought that we might, in favourable cases, safely do more than we now attempt, to prevent a return of the protrusion after the operation for the relief of strangulation. After performing operations for the radical cure more than two hundred times, I had grounds for the belief (which other operations on the peritoneum also favoured) that in a healthy subject the peritoneum might be dealt with as freely and as safely as any other tissue; and also that the chances of bad results from peritonitis would depend upon the injury sustained by the bowel in strangulation, rather than upon any way of dealing with the peritoneal sac and parietes after the strangulation had been relieved, provided that due drainage be secured. In cases where the bowel and omentum are congested only, and most likely to recover when placed into their natural

cavity, especially in young and healthy subjects, I concluded that the attempt would be justified, and would probably be successful. If so the advantage of preventing a lifelong trouble by the operation which relieves strangulation is obvious."

In answer to the objection made to his operation that evidence is wanting as to the permanency of the cure, he states: "Out of 188, most of them unselected cases of inguinal hernia, of which I have notes (including 7 females and 4 cases of double rupture, both operated on), in 107 cases the results are pretty perfectly known. I find that 51 of these were more or less unsuccessful; 42 returned in the first year after operation; that is, the patient could not do without wearing a truss after the first year. Of these by far the greater number were so much improved that they were made comfortable by a truss, which was not the case in most instances before the operation. Some, but not many, were as bad as before the operation. Mr. Kingdon, of the City of London Truss Society, has kindly forwarded to me the names of twelve of those who had applied to that institution for the supply of a truss after an operation at my hands.

"Fifty-six out of the 107 were cases which continued to be successful subsequently to a year after the operation, as ascertained either by direct examination by myself, other surgeons, or satisfactory to the patient himself, and either wearing no truss at all, or only occasionally, as a precaution, after the first year from the operation. Of these 7 were noted from thirteen to twenty-one months after the operation: 7 two years, 7 three years, 7 from four to six years, 7 from six to eight years, and 4 from nine to eleven years after operation. Reckoning operations on both sides and repetitions of the operations, I have done the operation more than two hundred times. Out of these I have had three deaths, one from pyæmia, one from erysipelas, and one from peritonitis. These have been made public to the profession on more than one occasion, because I judged it right and fair that in an operation of this kind the facts should be made known as far as possible. In the last case, as shown by the post-mortem examination (published in the *Medical Times and Gazette* in 1866), the peritonitis was found not to have originated in the parts operated on, but in a knuckle of bowel which had been lodged in the hernial sac before the operation, while the patient was wearing a strong truss. The cases in which any signs of peritonitis were observed were not more than about twenty in the whole number. One and a half per cent. is not a high average of deaths from surgical accidents, and there are very few operations of like kind, as, for example, for the removal of deformity, the cure of prolapsus of viscera, or of hæmorrhoids, which could show more favourably either in this respect or in respect to the somewhat severe test of the length of time in which they have been known to be without a relapse after the operation. And since 42 out of the 51 known unsuccessful cases proved to be so within the first year after operation, and most cases were examined once or more at various intervals of time after the operation, I think that, in respect to this point, we have a right to claim the probability of more and the certainty of at least as many good results for the 81 of which I have not been able to get notes after the first twelve months, as for the 107 in which I have done so. Under the age of

twenty-one years the results in known cases are much more satisfactory. But of dry statistics you will think that I have given you, perhaps, more than enough.

“The determination of the question as to whether the operation for the radical cure is an appropriate alternative to a life-long wearing of a truss, and a valuable supplement to the slow and very uncertain cure by truss pressure, will continue to depend on the age, habits, circumstances, mode of life, and, to some extent, the cruel experience of trusses and wish of the patient after having the matter fairly put before him, and, perhaps, nearly as much, upon the anatomical knowledge, skill, energy, and experience of the surgeon, or his disposition to that finality frame of mind to which I have alluded. In any case, whether universally or only occasionally resorted to, it forms, I think, a valuable addition to the resources of surgery.”

ART. 171.—*Case of Retention, followed by Suppression of Urine, lasting Seven Days—Recovery.*

By S. T. KNAGGS, M.D.

(*Dublin Journal of Medical Science*, July.)

The author relates a case of the above, and remarks: “This case is remarkable from the fact that the patient, a broken-down, debilitated subject, survived seven days without passing a drop of water from his urinary bladder, and ultimately recovered. It possesses a further interest from the fact that nature came to the rescue of the physician, and indicated a rational procedure in the treatment. The gastro-intestinal tract and the skin took on vicarious action, as was indicated by the copious watery vomitings and profuse perspirations exhaling a peculiar urinous odour. These organs (stomach, intestines, and skin) voluntarily gave their assistance to the kidneys, and performed their functions, while their (the kidneys’) portals were stopped, and thus relieved the blood of urea and such effete products as would have accumulated in the system, and have literally poisoned the patient.”

ART. 172.—*Reduction of Large Herniæ by Means of India-rubber Bands.*

By JOHN DUNCAN, Assistant-Surgeon, Royal Infirmary.

(*Edinburgh Medical Journal*, November.)

Several years ago Mr. Duncan heard M. Maisonneuve, in his clinical lectures, referring to the treatment of large herniæ, suggest a method of reducing them which he thinks worthy of notice. When a hernia of large size is incarcerated or strangulated it becomes a difficult matter to apply the pressure necessary for its reduction. Plainly the force applied should, if possible, be of such a character that the pressure can be

steadily maintained, and must be so adjusted that equal support is given to every portion of the tumour. With the unaided hands this is impossible. One hand must be applied to the neck of the hernia, and under such conditions the other is not large enough to encircle the tumour. The force used is consequently unequal at different points, and therefore dangerous and ineffectual. By means of an india-rubber bandage these indications of treatment may be fulfilled. A turn or two of the bandage is first made pretty firmly round the neck of the sac, and then layers of the bandage are placed in succession over the surface. Care should be taken that the first layer be lightly laid on, so that, until the whole surface of the swelling is covered, the tension of the band may be very slight, but after the first layer one or two others may be applied with a firmer hand. In this way only can complete equality of pressure be attained in every part.

Mr. Duncan had recently an opportunity of using this bandage with good effect.

The patient was an elderly gentleman with a large scrotal hernia. His mental condition (one of restless dementia) was such that no truss could be got to command persistently the large orifice. The bowel escaped from the abdomen perpetually. As the orifice was very large, and the danger of strangulation consequently slight, a scrotal bag was deemed the form of apparatus best suited to the case. The bowel was usually returned with great ease when the patient lay down. Once or twice, however, it was not so—the tumour got tense and tender, and pain in the abdomen and vomiting supervened. These attacks would pass off in forty-eight hours if the patient were kept in the recumbent posture. On one of these occasions, when the duration and severity of the illness were greater than usual, Mr. Duncan was called to see him; he found the hernia, which he failed to reduce, as large as a child's head, and very tense. An ordinary elastic bandage was then procured, and, using it in the way he mentioned, the bowel was easily returned.

This method of reduction is, Mr. Duncan states, of course applicable only to large herniæ.

ART. 173.—*On the Pathological Anatomy of Hydrocele.**

By M. LANNELONGUE.

(*Gazette Hebdomadaire*, No. 33, 1873.)

In simple hydrocele of the vaginal cavity, the relations of the epididymis with the testicle become modified; the former is removed from the gland and placed above it, and is also elongated and spread out on the surface of the tumour. When effusion has taken place into the tunica vaginalis, the two layers of the serous membrane are no longer in contact; the cavity can increase at the expense of only the parietal layer, which is stretched along its whole extent; the testicle is fixed at one spot, whilst the epididymis becomes more mobile and floats in the vaginal cavity. If the effusion increase, the epididymis is still

* Communicated to the Société de Chirurgie.

further separated from the testicle, and the relation of its surfaces undergo change, the anterior margin becoming a surface and the surfaces becoming margins. The middle portion of the epididymis approaches nearer and nearer to the parietal layer of the serous membrane, but the head and tail are more closely applied to the testicle. At the level of the head the serous membrane is spread forwards, and there remains only the vas deferens to unite the two organs. At a later period the lobes are unrolled, the tail remaining in its place, and the head becoming more and more isolated. M. Lannelongue made these observations on five hydroceles, each of about the size of the fist; the ages of the patients were forty-five, fifty, sixty, seventy, and seventy-four years. He has since made an examination of eighteen hydroceles.

What is the condition of the spermatic function in the subjects of hydrocele? In the five subjects first examined by M. Lannelongue, no spermatozoa were found either in the vesiculæ seminales or in the epididymis, and yet the testicle itself seemed healthy. In 1856 M. Duplay stated that he had not found any spermatozoa in any of five specimens of hydrocele examined by himself, but he did not note the size of the hydroceles. In 1867 M. Dieu could not find any spermatozoa in the corresponding vesicula seminales in any one of five cases of large and old hydrocele. M. Liegeois has published four observations made on two living subjects, one aged fifty-one and the other sixty years. One of these subjects had two hydroceles, each of the size of a goose's egg; the other also two hydroceles, each of the size of a hen's egg: in neither of these cases could any spermatozoa be found in the seminal fluid. In a third subject, who had epididymitis on one side and a hydrocele on the other, from 5 to 20, instead of from 150 to 200 spermatozoa were found. M. Roubaud has reported the history of an individual who had two hydroceles, but no spermatozoa. After the hydrocele had been tapped the spermatozoa returned, but they again disappeared from the seminal fluid on the refilling of the vaginal sac.

Small hydroceles do not cause the complete suppression of spermatozoa; but these corpuscles become modified and undergo changes in the seminal passages. This fact was pointed out by M. Duplay twenty years ago. In twenty-seven cases in which spermatozoa were observed in the vesiculæ seminales of individuals affected with hydrocele, some of these spermatozoa were found without heads and others without tails, and it was concluded by M. Duplay that these were imperfectly developed. This was an error of interpretation, owing to the fact that M. Duplay had examined only the fluid in the vesiculæ seminales. The change in the spermatozoa is a retrogressive one, and may be observed in the epididymis. Protein granulations frequently form at the union of the head and tail, whence results the separation of these two parts of the spermatozoon, which parts in their turn undergo change.

From these observations the practical conclusion may be drawn that treatment should be applied early, in order to prevent impairment of the spermatic functions.

ART. 174.—*On the Real Causes of the Apparent Shortening and Elongation in Coxalgia.**

By Professor VERNEUIL.

(*Gazette Hebdomadaire*, No. 36, 1873.)

In the deformity which generally accompanies coxalgia, it is necessary to distinguish femoral deviation and pelvic, although in the majority of cases the two are associated. Of apparent deformity there are two forms: apparent elongation of the limb with abduction, external rotation, backward projection of the antero-superior iliac spine, and sinking of the pelvis; apparent shortening with abduction, inward rotation, projection forwards of the superior iliac spine, and elevation of the pelvis. What is the cause which, at a given moment, may cause a change of one type for the other? Why will a patient, who at first presented elongation (apparent), present at a later period an apparent shortening? Martin and Collineau have explained this by the statement that if the affection be seated in the soft parts there will be elongation, but that, on the other hand, if the articulation be affected, there will be shortening. Bonnet and Valette attribute it to the faulty position of the patient in bed; this explanation is true as to the commencement of the deformity, as by a change of position it may be corrected, but it is not sufficient to explain the deformity at a more advanced period.

The unique cause is due to a rotatory movement of the pelvis, which movement is caused by contraction of the quadratus lumborum and spinal muscles. Hence, according as the contraction takes place on the same side as the articular affection or on the opposite side, there will be elongation or shortening.

What is the cause of this contraction? Professor Verneuil offers no hypothesis on this subject. But when acquainted with the indirect cause of the deformity, one may then remedy it more efficaciously by placing the patient on the back or belly, and by resting the knee on a convex region—that is to say, on the side opposed to the contraction, and by manipulations made in seizing the shoulders and pelvis of the patient, the lateral distortion, and consequently the contraction may be removed. The application of a bandage after these manœuvres will then be really efficacious, and will establish the normal position without fear of relapse.

ART. 175.—*On the Diagnosis of Scrotal Tumours.*

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery*. A Manual, pp. 1088, London, 1872.)

We quote the following passage as an example of the practical method with which Mr. Bryant deals with a subject:—

* Communicated to the Association Française pour l'Avancement des Sciences, at Lyons.

"I propose now to consider the subject of diagnosis of scrotal tumours as a whole, to describe the train of thought as it passes through the surgeon's mind in his attempt to diagnose a tumour of the testis, and to point out the special symptoms, or their combination, as they tend to indicate the presence of any special affection. Fully recognising the great difficulty so frequently experienced in forming a positive opinion as to the nature of a scrotal tumour, I believe that a near approximation to truth may generally be made when the history of the case and its special symptoms are carefully weighed, and I am not disposed to place amongst the impossible the diagnosis of a scrotal tumour, because occasionally great difficulty may be experienced, or it may be beyond our power to form any positive opinion upon the point. There are gradations of probability in all our conclusions as to the diagnosis of any disease; a certainty, untainted by fallacy or doubt, is rarely obtained; and I take it, we are as often correct in our judgment of a scrotal tumour as we are of any other affection.

"The first point the surgeon has to decide, on being consulted as to the nature of a scrotal tumour, has reference to the question of hernia. Is the tumour connected with the testicle? or has it passed down the direction of the cord from the abdominal cavity? Should the surgeon be able to isolate the growth at its neck from the abdominal cavity by the thumb and finger, the question is at once decided, for almost all scrotal tumours can be so isolated, it being quite exceptional for any to pass up the cord so far as the internal ring. Rare cases of vaginal hydrocele, or hæmatocele, in which the tunica vaginalis is open up to the internal ring, form an exception.

"This important preliminary point having been decided, the nature of the growth claims our attention next.

"Is it a hydrocele or a hæmatocele? Is it the product of inflammation or of tubercular disease? Is it a new growth altogether, and if so, is it innocent in its nature or malignant?

"Should the tumour prove translucent by transmitted light, the existence of a hydrocele may fairly be decided, although the form of this affection may yet be doubtful. Is it an ordinary vaginal hydrocele, or is it encysted? Should the tumour be large, even, and pyriform, and should the testis be found, either by means of manipulation or by the opacity displayed at one spot on transmitting light—at the posterior part of the tumour—vaginal hydrocele may be suspected; but should the testis exist in front or at one side, and should the tumour be small and have been of very slow growth, and should it be more or less globular or evidently multilocular, a cystic hydrocele may probably be diagnosed. The tapping of the tumour will, however, settle the diagnosis; for in vaginal hydrocele the fluid will be more or less straw-coloured and albuminous; in the encysted it will be thin, non-albuminous, pale, and probably opalescent, containing on microscopical examination granules and spermatozoa.

"The presence of hydrocele is thus readily decided in the majority of cases, but in rare or old instances the tumour is at times opaque, thus complicating the diagnosis. The history of these cases will, however, tend to throw much light upon the point, for it will to a certainty reveal a disease of very long standing; the tumour will be probably

painless and fluctuating, and the testis will be made out in its usual position at the posterior part of the sac. Should a doubt exist, a puncture with an exploring trocar and canula will decide the question, for in these cases fluid will be drawn off of a dark colour, loaded with cholesterine.

"We will now pass on to the consideration of tumours which are not translucent, and not hydrocele, and it is here that the surgeon experiences true difficulty in his diagnosis, for almost all the diseases of the testis are insidious in their growth, and most are painless in their development. The hæmatocele usually follows upon some strain or injury, and increases with tolerable rapidity up to a certain point, and is accompanied with pain which soon subsides; it then becomes stationary as to size, and remains torpid for a variable period, when pain again appears, with other signs of inflammation. The presence of the testis is also to be made out by manipulation towards the posterior part of the organ. The surface of the tumour is always smooth, more or less oval or pyriform, and semi-elastic or fluctuating.

"The inflammatory affections of the testis have a peculiar shape, being laterally flattened; they are usually accompanied at some period of their course with tenderness and pain, and often associated with fluid in the tunica vaginalis. In the syphilitic inflammation this fluid is often copious. Both organs are also generally involved, either together or at different times. The tumour is usually somewhat tender to the touch, and has a firm fibrous feel, unlike the semi-elastic and half-fluctuating sensations given by cystic or carcinomatous disease. In very chronic cases the testis may, however, be perfectly painless, and will allow of any amount of manipulation without distress; the natural testicular sensation will also have disappeared. In syphilitic disease the surface of the tumour will probably be irregular, with firm fibrous outgrowths in different parts and in the tunica albuginea.

"In the tubercular affection of the epididymis or testis there should not be any difficulty in the diagnosis, for the tubercular deposit, as a rule, takes place unaccompanied with any pain, or any symptom beyond that produced by its deposition. When deposited in masses—its usual form—it feels like some foreign body introduced into the body of the gland or of the epididymis; it is at first quite painless and unproductive of any symptoms, these only appearing when the material begins to soften down, and excite some inflammatory action in the parts around. The tubercular material may be deposited in one mass or more masses, these subsequently, perhaps, coalescing into an irregular induration. When suppuration takes place, the diagnosis is complete.

"The cystic or simple tumours of the testis are painless from the beginning, painless during their growth, as well as on manipulation, and are to be recognised by purely negative symptoms. They attract the patient's observation only from their size; can be handled without exciting pain, and are usually free from even the natural sensation of the organ upon pressure. They are slow in their progress, uniform in their outline, and more or less globular; are always confined to one gland; are rarely accompanied with fluid in the tunica vaginalis; and, on being punctured, emit only a more or less blood-stained glairy mucus.

"The cancerous tumours of the organ are more rapid in their development than the cystic—a year's growth, as a rule, giving a large tumour; they are likewise painless, and readily allow of free manipulation. The natural sensation of the organ also soon disappears. They are unaccompanied with a hydrocele, and also involve only one organ. They have a more elastic and fluctuating feel than the cystic, and the inflammatory enlargements, and when their outline is unequal or bossy, the projection is generally softer than the other portion of the tumour. An exploring needle, or trocar and canula, rarely, if ever, reveals the mucoid fluid so characteristic of the cystic or simple affections, but usually lets out blood or the thin creamy fluid so characteristic of a cancer. In the preceding table the chief points of difference in the several chronic affections of the testicles are clearly shown."

ART. 176.—*Application of Auscultation as an Aid to the Diagnosis of Stone in the Bladder.*

By HENRY H. HEAD, M.D., Physician to the Adelaide Hospital.

(*Irish Hospital Gazette*, July 15.)

Dr. Head states that he sounded a gentleman's bladder, and was pretty sure that he detected a stone, but did not think the evidence absolutely conclusive, when it occurred to him to try auscultation, to see if it would assist his diagnosis. He accordingly applied one end of an india-rubber tube to the top of the catheter with which he was examining him, and the other to his ear, and at once heard, with the greatest distinctness, the instrument strike the stone. The evidence afforded was so conclusive, that there could no longer be any doubt on the subject.

He adds: "Since I saw the above case, I have performed many experiments with substances of various sizes and degrees of hardness, placed in a bladder distended with water, and have never failed to discover them by the sense of hearing, which I have found much more delicate than that of touch. Even a small piece of soft chalk, not larger than a pea, can be most easily detected; the slightest touch of the catheter or sound being conveyed to the ear, when it could not be recognised by the hand.

"I feel confident this method of applying auscultation will afford most material aid to the surgeon in forming a diagnosis in doubtful cases."

The apparatus used by him consists of a small vulcanized india-rubber tube, about eighteen or twenty-four inches long, to one end of which an ivory ear-piece is attached, similar to that used for ear-trumpets; and into the other end is inserted a metallic plug, with a tapering end protruding, which should be pressed tightly into the canal of the catheter; or, if a solid sound is used, the end of the tube, without the plug, may be fastened on it.

ART. 177.—*On Varicocele and Varices of the Lower Extremities.*

By NATHAN BOZEMAN, M.D.

(*New York Medical Journal*, October.)

The following are the conclusions at which Dr. Bozeman has arrived:—

1. That varicocele has its commencement in boyhood, though frequently not noticed until after the age of twenty-one, and that it is usually the results of self-abuse.

2. That the old theory of the greater length of the left spermatic vein, and its peculiar mode of entering the corresponding renal, does not fully explain the cause of the affection.

3. That obliteration of the spermatic veins does not always result in a cure of the disease and removal of its effects upon the system.

4. That retrenchment of the scrotum in connexion with obliteration of the spermatic veins constitutes a most important part of any system of treatment, and in mild cases is sufficient alone to effect a cure.

5. That for obliteration of the spermatic veins the procedure above described is the simplest, safest, and most efficient, we believe, that can be employed.

6. That varices of the lower extremities in the milder forms are most frequently met with among women; but in the worst forms with associate ulcers upon the legs, they are oftener seen among men, owing to the heaviness of their labour and the greater persistency of their muscular efforts.

7. That varices with associate ulcers upon the legs are generally found between the ages of thirty and fifty and that in old subjects, with broken-down constitutions, canalization of the veins is often seen.

8. That varices and varicose ulcers of the legs stand in the relationship of cause and effect, and that the permanent cure of the latter can only be effected by the obliteration of the former.

9. That varices of the external saphena vein is seldom met with in its usual course to the popliteal, and an ulcer in its track is thought to be still rarer in its occurrence; but, when it joins the internal saphena in its anomalous course, it becomes much more liable to disease, with ulcers on the outside of the ankle.

10. That varices in the worst forms are perfectly curable with the silver-wire ligature, used in the form above described.

11. That for the operation the patient should be required to stand, as in this way the prominence of the vein is maintained, and greater facility given to the passage of the needle.

12. That when the operation is properly performed it is perfectly simple, and little liable to the dangers usually feared and described by authors.

13. That the transfixion of the vein with the needle and the lodgment of the silver wire there eight days are not liable to be followed by any untoward symptoms.

14. That the wire does not effect complete division of the vein under the constricting force applied to it, nor is it necessary that this or even a partial division should take place in order to insure obliteration.

15. That eight days usually suffice for the apparatus to remain in position, when it is easily removed by clipping off the shot and withdrawing the wire.

16. That ulceration of the skin and exposure of the vein, the main causes of accidents arising from the operation, are effectually guarded against.

17. That obliteration of the vein at the ligated points is due usually to agglutination of the sides of the vein, the result of adhesive inflammation previously induced in the endothelial membrane from pressure of the constricting wire.

18. That the method is applicable to all cases, and the cures in a very large proportion remain permanent even in the worst forms of the disease.

ART. 178.—*Median Lithotomy.*

By WILLIAM CADGE, F.R.C.S., Norwich.

(*British Medical Journal*, August 30.)

In this paper the author recounted, briefly and in general terms, the results of his personal observation and experience of median lithotomy. He summed up the advantages and disadvantages of the operation; compared and contrasted it with an equal number of cases of lateral lithotomy and of lithotrity; glanced at the causes of death after median lithotomy, and stated the conclusions to which he was led by this experience—viz., 1. Median lithotomy is not applicable to very young subjects; 2. It is objectionable in all cases in which the stone is of considerable size; 3. It has its proper sphere, and possesses decided advantages in cases in which the stone is of moderate dimensions.

Mr. Teevan (London) greatly preferred the lateral operation of lithotomy. He had only performed median lithotomy once, but had met with cases in which sterility had followed it. The prostate was not dilatable; but, as shown by Mr. Ellis, the neck of the bladder was always lacerated in the attempt. He had lost only three patients in forty-nine operations.

Mr. Maunder (London) thought that one great advantage attending the median operation was that the patient had a dry bed. He was sure that the prostate was dilatable; for children could hold their urine directly after the operation, although the neck of the bladder had been freely dilated.

Mr. Lund (Manchester) considered median lithotomy to be really urethrotomy.

Mr. Cadge admitted Mr. Lund's criticism as to the name, and explained the operation in some detail. He pointed out that Mr. Teevan's statistics were fallacious; for out of his forty-nine cases only seven were adults, and of these two died. Every one knew that lithotomy in children was a perfectly safe operation. He had never once in all his

experience been able to hear of a case of median lithotomy followed by sterility, although he had made special investigations into the point. In the lateral operation, the parts were as much bruised as they were injured by cutting in the median method. Median lithotomy was, however, fast being relinquished in Norwich.

ART. 179.—*On Obstruction of the Rectum by Fibrous Tumours of the Uterus.**

By M. FAUCON.

(*Gazette Hebdomadaire*, No. 30, 1873.)

This obstruction may be so complete as to cause symptoms of strangulation. In 1871 a case of this kind occurred at La Pitié, and caused M. Faucon to look up this interesting subject in authors. Very little is given in the classical works. In 1853 M. Nélaton gave a clinical lecture on obstruction of the rectum by a fibrous body, which necessitated enterotomy. M. Duchaussoy has reported two cases, and M. Herrgott has observed an analogous instance.

When the fibrous tumour is very large it ascends in the abdominal cavity, and the intestine escapes. Accidents are caused by fibrous tumours of the lower pelvis, or by tumours fixed within the pelvis by adhesions. In one of the cases reported by Duchaussoy, the tumour acted simply as a heavy body; the finger, introduced into the vagina, could displace the tumour and remove the obstruction. In Nélaton's case the fibrous body could not be displaced, and there was retention both of fæces and of urine. This patient finally suffered from stercoraceous vomiting. An artificial anus was made in the left iliac fossa. Death took place eight days after the operation. In M. Herrgott's, the lower pelvis was completely filled by the tumour; an operation was performed, and the patient died on the following day. The fibrous tumour was seated on the top of the uterus, and had forced this organ backwards. The subject of the second case recorded by M. Duchaussoy was fifty-three years of age. An artificial anus was made, and death occurred ten days after the operation. At the autopsy it was found that the fibrous tumour did not completely obstruct the rectum, and a small sound could still be passed. The uterus was adherent to the rectum at the seat of obstruction, and the wall of the intestine had ulcerated through. In the case observed by M. Faucon, Callisen's operation was performed, but with a fatal result. The tumour was not so large as to fill the lower pelvis, but it was retained there by firm adhesions. The tumours which had produced obstruction of the rectum in the above-mentioned cases were interstitial or sub-peritoneal, and were seated on the posterior wall or on the superior margin of the womb.

Treatment.—To employ ordinary means, to attempt to return or displace the tumour, M. Herrgott extirpated the tumour, M. Nélaton performed inguinal enterotomy, and M. Broca lumbar enterotomy. M. Faucon seems to prefer the latter operation.

* Communicated to the Société de Chirurgie, Paris.

ART. 180.—*A New Operation for the Close of Artificial Anus.**

By JOHN DUNCAN, M.D.

(*British Medical Journal*, August 2.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, Dr. John Duncan stated that in many cases destruction of the septum was not successful, and that there were great variety in operative methods, and a great want of success. Case F., aged 45, had a femoral hernia of seven days' standing in 1869. The bowel was gangrenous and ruptured. The patient recovered with an artificial anus, admitting two fingers; nothing passed *per anum*. In June, 1870, Dr. Duncan destroyed the septum by the gradual tightening of silver wire to a distance of an inch and a half, after which fæces began to pass *per rectum*. In December, 1870, the orifice was still open, so another portion of the septum was destroyed nearly an inch higher. No improvement. In April, 1872, after clearing out the bowels, Dr. Duncan dissected up the mucous membrane all round the orifice to a distance of half an inch, invaginated it, and then sewed the surface together by six catgut sutures, then deeply pared the edges of the skin, and brought them together by silver wire; flexed the thigh on belly, and confined the diet to milk and lime-water. The cure was perfect.

Dr. Matthews Duncan described a case of artificial anus he had seen in which a spontaneous cure resulted after parturition had taken place in the interval.

ART. 181.—*On Resection of the Coccyx as a means of Facilitating the Discovery of the Inferior Extremity of the Rectum in Cases of Imperforate Anus.†*

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 25, 1873.)

M. Verneuil long ago remarked that resection of the coccyx would considerably enlarge the operative field for the research of the inferior extremity of the rectum in cases of imperforation of the anus. About ten years ago there was brought to this surgeon an infant whose anus was of the normal configuration, but above which, at the distance of a centimetre, was found a septum. A search for the lower extremity gave no result. After the death of the infant the rectal swelling was found about one centimetre above this septum, and it could have been easily reached after removal of the coccyx.

In 1857, and also in 1862, M. Verneuil proposed excision of the

* Read at a Meeting of the Medico-Chirurgical Society of Edinburgh, May 21st.

† Communicated to the Société de Chirurgie, Paris.

coccyx, during discussions which took place at the Society of Surgery. He rejected puncturing, which could scarcely be of any utility in diagnosis.

In 1869 M. Verneuil performed perineal enterotomy on an infant, aged four days. The anus was well formed, but imperforate; an unsuccessful puncture had previously been made with a bistoury. M. Verneuil incised the perineum layer after layer, punctured the rectal swelling, and fixed the margins of the intestine to the skin by points of suture. The infant recovered for a time, and was able to retain its motions, but died some weeks later in the country, the parents not being able to give any account as to the cause of death. In this case, resection of the coccyx had not been necessary.

M. Verneuil has had occasion to perform resection of the coccyx on five occasions.

In 1866 a boy, aged four years, was brought to M. Verneuil in the following condition: abdomen distended, great disturbance of general health, perineum well formed, an anal infundibulum about thirteen millimetres in depth. An incision was made from the point of the coccyx to the anus, but, though this was more than two centimetres in depth, the rectum could not be found. About one centimetre of the coccyx was then resected, and a livid protrusion exposed. The dissection was then continued, but before the rectal swelling was opened four sutures were passed through in order to fix it. The incision gave issue to meconium. The intestine could not be brought nearer to the skin than seven or eight millimetres. The infant died forty-eight hours after the operation.

In 1868 M. Verneuil had occasion to operate on a female infant, aged but a few hours. The raphé was convex at the part corresponding to the anus; a sound introduced into the vagina gave no indication of the presence of the rectum. An incision was carried from the coccyx to the commissure of the vulva. Guided by the sound remaining in the vagina, the surgeon dissected towards the coccyx. Resection of the coccyx rendered the terminal rectal swelling easily accessible. The infant died on the ninth day after the operation.

In 1872 a male infant, brought into the world before the completion of the period of pregnancy, was operated on forty-eight hours after birth. About eight millimetres in extent of the coccyx were resected; the stercoral tumour then appeared, and sutures were passed in order to fix it before the incision was made. The margins of the incised intestine were then fixed by eight points of metallic suture. The infant lost much blood at the time of the operation, and the hæmorrhage returned on the following day. On the eighth day there was acute epididymitis, on the twenty-first day hydrocele and subsequently erysipelas, starting from the scrotum and involving the perineum. Death on the thirty-fifth day from peritonitis.

On November 29th, 1872, a child, aged fifty-one hours, was brought to M. Verneuil. The abdomen distended; vomiting. The perineum apparently fluctuated, and the situation of the anus was occupied by a small red tubercle; there was a protrusion in the perineum during any straining motion. An incision two centimetres in depth was made in the perineum, but without any result. Resection of the coccyx

was then performed, and the dissection renewed. M. Verneuil then met with a cord which he punctured, giving exit to some bubbles of gas. This cord, which represented the rectum, was brought downwards and fixed to the skin. One month after this operation the infant had an attack of pneumonia. Dilatation of the anus was regularly practised; the infant recovered without incontinence. From time to time some of the urine flowed from the anus and through a urethro-rectal fistula, but most frequently micturition was performed through the penis.

M. Verneuil has thus operated on five boys and one girl; in none of these cases was there any other malformation. In four instances the anus was well formed. There was nothing beforehand to indicate that the terminal rectal swelling was deeply situated; there was no guide to the position of the intestine. M. Verneuil regards puncture of the terminal rectal swelling as a dangerous proceeding, and one which can only serve as a means of diagnosis. In these six cases there was no necessity to resort to Littré's operation; by making the dissection in the median line, wounding of important organs was avoided. The success of the operation in the five last cases is attributed by M. Verneuil to resection of the coccyx.

Resection of the coccyx, even when it is not indispensable, much facilitates the operation, and diminishes its duration. After the operation, M. Verneuil has always succeeded in meeting with the intestine in the course of a few minutes. The resection also facilitates the suture of the intestine to the skin, and thus helps to prevent infiltration of fæcal matter, and subsequent constriction. If the cul-de-sac of the rectum is very high up and fixed, traction on the delicate walls of the intestine may cause their laceration; after resection of the coccyx, this dragging downwards is less necessary, for it may be carried backwards as well as downwards, in order to reach the skin. This was done by M. Verneuil in three of his cases; the anus thus displaced attains all its functions, although not very speedily. In two of M. Verneuil's operations the infants were ill developed, and in two other cases they were almost *in extremis*. The following are the results: one cure dating from nine years previously; a second case dating from six months; two operative successes confirmed at the end of one month; one death on the ninth day, another death on the second day. There were altogether four deaths, one from scleroma, a second from erysipelas, a third from exhaustion, and the fourth from some unknown cause.

These results are encouraging. The anus being carried backwards there is less likely to be incontinence of fæces; there would rather be a tendency to constriction, which it is necessary to overcome by the daily introduction of the little finger. To resume, perineal enterotomy is the operation to perform, and resection of the coccyx diminishes the difficulties of the operation, and shortens its duration. Still resection of the coccyx is not always necessary.

ART. 182.—*A Simple Plug for Rectal Hæmorrhage.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Two years ago, under somewhat urgent circumstances, Mr. Jordan devised a plug, which he has found ready, simple, and efficient in checking hæmorrhage from the rectum, whether recurrent or secondary. The tip of the forefinger thrusts the centre of a thin white pocket-handkerchief well into the rectum, large marbles of compressed cotton-wool (or rag) are then gently pushed into the pouch in the rectum, until it is amply distended, and of a balloon shape. Expulsive efforts, or moderate traction on the handkerchief, increase its hæmostatic efficiency. The wool marbles may be moistened, with the perchloride of iron if it be deemed necessary. A plug saves the necessity of pulling down the rectal wall with a vulsellum forceps, and tying the bleeding point—not a pleasant alternative, especially without chloroform. In twenty-four or forty-eight hours the rectum converts the balloon into a cylinder, which is readily withdrawn at pleasure.

ART. 183.—*Nine Cases of Colotomy.*

By CHRISTOPHER HEATH, F.R.C.S.

(*British Medical Journal*, August 30.)

The nine cases related all occurred in females. Two operations were undertaken for cancer of the rectum, causing obstruction, which had existed many days; both patients died. Three operations were performed for scirrhus in an earlier stage, before obstruction had occurred; and of these one died and two recovered—one of the latter dying seven months afterwards, and the other being now alive and well, seven months after the operation. Two operations were performed for syphilitic ulceration and stricture; both recovered, and are alive now. One operation was performed, as a last resource, in a patient worn out with extensive fistula and ulceration (probably syphilitic) before she applied for relief, and proved fatal. The operation was performed for the relief of a recto-vesical fistula, and was perfectly successful. The result therefrom was four deaths and five immediate recoveries. Mr. Heath appended some observations on the operation and its results, urging its earlier adoption in cases of obstruction and intractable disease, and showing the slight risk to the patient the operation *per se* inflicted.

In the discussion which followed, Messrs. Maunder, Parsons (Liverpool), Meade (Bradford), Humphreys (Shrewsbury), and the President, approved of the operation. Messrs. Heath (Newcastle) and Maunder preferred the transverse incision; the latter made the wound conical,

with the apex towards the deeper parts. He had met with enormous quantities of subperitoneal fat obstructing the operation.

Dr. Parsons (Liverpool) had a successful case of infantile colotomy; the patient, now twenty years old, working as a dock-labourer.

ART. 184.—*Note on the Operation of Circumcision in the Adult.*

By H. G. HOWSE, M.S.

(*Guy's Hospital Reports*, vol. xviii. 1873.)

Mr. Howse calls attention to the fact that after the operation of circumcision, as ordinarily performed, a considerable swelling, resulting from inflammatory induration, occasionally persists at the lower part of the penis. To obviate this he says:—

“The remedy which I propose, and which I have been in the habit of using in all my circumcision cases, is the following:—After removing the skin in the ordinary way, cut out the wedge-shaped piece of mucous membrane *at the frænum* with a pair of scissors, and then snip the frænum cleanly away from the glans, thus removing it and the wedge-shaped bit of mucous membrane in one piece together. Then unite the skin and the mucous membrane in the ordinary way, &c.”

ART. 185.—*Advantages of Circumcision from a Surgical Point of View.*

By J. CADELL, M.D.

(*Edinburgh Medical Journal*, February.)

Dr. Cadell read a paper on this subject before the Medico-Chirurgical Society of Edinburgh. He considered it in four aspects: 1. In infancy. 2. In boyhood. 3. In adult life. 4. In old age. He described:—

1. The local and constitutional disturbance which may be set up by a long prepuce in infancy, and showed how these might be immediately relieved by circumcision. He read notes of a case, and also referred to those of Mr. Bryant, illustrating the effects of an adherent prepuce on the urinary organs, and the relief obtained by circumcision.

2. In boyhood, he believed that a long prepuce, by imprisoning the secretion from the glans, might be an exciting cause of masturbation; and if there was an hereditary disposition to nervous affections, epilepsy and insanity might be thereby induced.

3. In adult life, circumcision would facilitate cleanliness, diminish the secretion from the glans, so that the great cause of non-venereal excoriation would be removed, and thus render the mucous surface less susceptible to the venereal poison.

4. In old age, he cited Mr. Hey's opinion, that a congenital phimosis was an exciting cause of cancer in the penis.

In conclusion, Dr. Cadell remarked that he would strongly recommend circumcision in boys between infancy and puberty, whenever a congenital phimosis caused them the slightest inconvenience.

Professor Lister said the cases alluded to by Dr. Cadell, of irritation caused by adherent prepuce, must be admitted to be of great interest. They knew that where adhesion existed there was often an accumulation of secretion, and they could understand that to be a cause of irritation. He should like to have it clearly brought out how far the symptoms in these cases were attributable to that cause, as distinguished from mere length of the prepuce. Though all would allow that cases of phimosis ought to be subjected to operation, it ought to be considered whether circumcision was the best that could be done. The object could be obtained without mutilation. Mr. Jordan, of Birmingham, had written an interesting paper on the subject, showing that a perfectly natural condition of things might be obtained by the simple means of notching the ring of skin to the requisite extent, and then dividing the mucous membrane up to the *corona glandis*, and, avoiding all use of stitches, simply have the part drawn backwards and forwards twice every day. As regarded the question of malignant disease, he might have been unfortunate, but he had now seen a large number of cases of cancer of the penis, not one of which was associated with phimosis.

Dr. J. Bell said his experience in regard to circumcision was in cases of long standing and perfectly incurable nocturnal enuresis by small children who were in the habit of wetting the bed. In as many as four or five cases he had succeeded in effecting a perfect cure, by simply removing the redundant portion of the prepuce. In one case—a very bad case—a poor little fellow made his water first in the prepuce, which was like an orange at the end, and then he got rid of the water by squeezing it with his hand, the water coming out by a small aperture. That case was in George Watson's Hospital, and it became a question with the managers how to provide the necessary bedding for the boy. The operation performed was very simple, and was a complete cure. He (Dr. Bell) had very little experience of adherent prepuce; cases of adhesion of the prepuce were not so common as those of long prepuce.

Dr. Halliday Douglas said, that several years ago he was waited upon by a gentleman who had been married a few days before, and who had failed to effect connexion. He was labouring under a very tight phimosis. He had never experienced any inconvenience during his life of twenty-five or twenty-eight years. He (Dr. Douglas) transferred him to Mr. Syme's hands, and within twelve months there were twins born to him. Another curious fact in this gentleman's history was this: In early life his brother had been relieved of phimosis, and three of his children, nephews of the first gentleman, had required to have the operation performed.

Dr. Watson was glad that the conclusion to which Dr. Cadell had arrived was, that where an elongated prepuce was a source of annoyance, it was right to relieve the person by removing it. As regarded the question of the comparative frequency of venereal complaints among persons who had been circumcised and those who had not, he might refer Dr. Cadell to a paper which appeared in the *Medical Times and Gazette*, 1st December, 1855, by Mr. J. Hutchinson, in which it was

shown that at the Metropolitan Free Hospital, situated in the Jews' quarter, in London, in the year 1854, the proportion of Jews to Christians among the out-patients was as *one* to *three*—at the same time, the proportion of cases of syphilis in the former to the latter was only as *one* to *fifteen*. Yet, that this was not the result of any higher degree of morality on the part of the Jewish population was obvious, because fully one-half of the cases of gonorrhœa occurred in Jews. This preventive influence of circumcision, as regards chancrous infection, led to hereditary syphilis being rarer among the children of Jews than of Christians. . . . He was surprised that Dr. Cadell did not quote that greatest of all authorities on such matters, viz., Dr. Ricord, who had said, in one of his published clinical lectures: "The prepuce is an appendix to the genital organs, the object of which I could never divine; instead of being of use, it leads to a great deal of inconvenience, and the Jews have acted kindly in circumcising their children, as it renders them free from one at least of the ills to which flesh is heir. The prepuce is, in fact, a superfluous piece of skin and mucous membrane which serves no other purpose than as a reservoir for the collection of filth, especially when individuals are inattentive to cleanliness." This was very strongly confirmatory of Dr. Cadell's views, though it appeared to Dr. Watson a little extreme.

ART. 186.—*An Operation for Congenital Phimosis.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

In his presidential address, delivered at the annual meeting of the Birmingham and Midland Counties branch of the British Medical Association, June 24th, 1873, since published under the title, *Surgical Inquiries*, Mr. Jordan made many highly instructive and most valuable observations on subjects in which he is known to have taken some special interest. In commenting on some points in the surgery of the genito-urinary organs, he stated that he had more than once brought before the notice of medical readers a simple operation for congenital phimosis, which he has performed for many years. It is best adapted for young men, from puberty upwards. For little boys, as a rule, circumcision is best. After childhood Mr. Jordan's operation has the merit of completely relieving the phimosis, and yet of not interfering with work and movement. The prepuce, first on one side, and then on the other, is divided, skin and lining, by probe-pointed scissors to the extent of a quarter of an inch. The prepuce is then partially retracted, exposing a quadrilateral space of lining membrane, which is divided by a second snip on each side. The prepuce may then be fully retracted, and the incisions which were made parallel with the long axis of the penis will be found to have assumed a linear shape at right angles to the line in which they were made. The incision may be more or less free according to the degree of the phimosis. Usually no stitches are

needed ; all that is required is that the prepuce be kept well retracted by a strip of greased or wet lint.

ART. 187.—*On Excision of Indurated Chancres, and their Removal by means of the Elastic Ligature.*

By Dr. ISIDOR NEUMANN.

(*Allgemeine Wiener Medizinische Zeitung*, No. 36, 1873.)

“Every practitioner experienced in the treatment of syphilitic diseases can recall to mind some few cases in which an Hunterian chancre had healed, and was not followed by symptoms of constitutional syphilis. This exception to the rule is probably the reason why excision of hard chancre has found a few warm panegyrists.

“Whilst Langenbeck has reported one and Ulrich three cases, Vogt has performed a great number of excisions which were all followed by such favourable results as to have led this surgeon to form the conclusion that this method of treatment, when rationally applied, should always be preferred to any other. He describes his operation as follows:—Careful cleansing and ablution of the whole field of operation before and after the excision, and application of the knife to perfectly healthy structure are essential conditions. In dealing with an indurated chancre seated on the inner and mucous surface of the prepuce, Vogt turns back the latter as far as the corona glandis, so that the ulcer is freely exposed; the surrounding parts are then irrigated with a weak solution of permanganate of potash, and the instruments and operator's hands are moistened with the same solution. The parts to be removed are then wiped with charpie saturated with a solution of carbolic acid. The induration having been seized by probed forceps and elevated, the preputial fold thus formed, together with the ulcer and induration, is removed by one stroke of a pair of Cooper's scissors. Charpie dipped in carbolic acid is now applied to the bleeding surface, the margins of the wound are brought together by suture, and, after frequent cleansing and irrigation, are covered by carbolic acid dressing, which is allowed to remain for twenty-four hours. At the end of this period the dressing is renewed under irrigation, and after the second interval of twenty-four hours, the sutures are removed. In dealing with a large induration, and especially one reaching nearly to the corona glandis, it is necessary to use the scalpel, and to cut round and shell out the growth, as in an operation for the careful extirpation of a malignant tumour. Though healing may not take place by first intention, as is frequently the case after excision of large chancres, the open surface, when cleansed in the above described manner, generally closes in a short time. This disinfection is carried out so that the wound may not be infected by the parts to be excised, and subsequently to prevent any contagion from ulceration that may co-exist on the surface of the glans. Vogt holds that this glandular ulceration is no contra-indication for undertaking excision of a preputial chancre or indurations, nor for the removal of a phimosis. With attention to the above-described precautions this dreaded ulceration is rarely met with along the line of incision, even though the

wound may not heal by primary intention, whilst with their neglect the ulceration may be anticipated with certainty.

"I have paid some attention to this subject for more than six years, and until lately have succeeded in obtaining but two good results out of several operations.

"A patient of mine had had the misfortune to contract an induration. His wife, who had been away from home, was about to return, and he was very desirous of having the induration, which was of about the size of a hazel-nut, removed from his prepuce. That the seat of the wound might again become indurated was no contra-indication to my patient. I performed excision at once, taking care to cleanse the margins of the wound, which, however, in spite of every precaution, did not heal by primary intention, but at the end of eight days bounded a deep ulcer, which along the whole of its periphery was hard and infiltrated. At the end of the sixth week there was complete cicatrization. In this patient there has not as yet been any manifestation of constitutional syphilis.

"Very instructive is the following case, as indicating the uselessness of those precautionary measures which Vogt regards as urgently necessary:—

"A strong young man came to me with a sharply circumscribed induration of the size of a hazel-nut, which had appeared on the upper part of the prepuce about four weeks previously. The inguinal glands on the right side were slightly enlarged; nothing abnormal was found in any other set of lymph glands. Pressing circumstances necessitated the speedy removal of the induration, and the patient begged that an operation should be performed, although I would not promise him any good result.

"In order to avoid the trouble of the many precautions required in excision, I ligatured the induration with an elastic tube. The slough came away on the eighth day, and exposed a healthy and clean wound, the base and margin of which showed no induration, and which became completely cicatrized at the end of a month. Five months have intervened, and no symptom of constitutional syphilis has yet been observed."

ART. 188.—*Report of a Case of Priapism.*

By W. JOHNSON SMITH, F.R.C.S., Surgeon to the Seamen's Hospital, Greenwich.

(*The Lancet*, June 7.)

Mr. Johnson Smith places on record the history of a case of priapism, which, after lasting more than four weeks, yielded to an ointment composed of equal parts of extract of belladonna and mercurial ointment.

ART. 189.—*The Treatment of Gonorrhœa by Local Remedies only; with Complicated Cases so Treated.*

By PHILIP FOSTER.

(*Medical Times and Gazette*, Oct. 25.)

Some most eminent authorities having condemned the use of injections in the first stage of gonorrhœa, Mr. Foster feels that he is simply discharging a duty in recording how exceedingly successful, during an extended trial, this mode of treatment has proved in his hands. That cases do occasionally occur in which the immediate use of injections would not be prudent he admits, but experience has assured him that the great majority of cases may be thus treated with the most perfect safety and success. Where mischief has followed this mode of treatment, he believes it to have arisen from injections of too powerful and irritating a nature having been used. His success in the treatment of this complaint he considers mainly attributable to the use of very mild injections: at first, say, one or two grains of sulphate of zinc to the ounce of water, strengthening or changing them in a few days if necessary. Three or four days usually suffice to effect a cure, but Mr. Foster considers it advisable, and always recommends that it should be persevered with for a few days after the discharge has entirely ceased. The occurrence of gleet and stricture would, he believes, be exceedingly rare after this mode of treatment.

Mr. Foster observes that the following are not selected cases, but the only complicated ones that have come under his care since he commenced his present mode of treatment. Case 1 is inserted because it illustrates the mischievous effect of strong and irritating injections—the reason, he believes, of local treatment having fallen into disrepute.

“CASE 1.—Mr. ——— called upon me, complaining of great pain and uneasiness in the urethra, especially when passing water. The meatus looked red and irritable, and there was a slight glairy discharge issuing from it. He had the day before consulted a surgeon at Manchester, where he resides, who had prescribed an injection of nitrate of silver, gr. j ad ʒj, to be used three times a day. He said that this injection, which he has used twice, had made him decidedly worse. I ordered an injection of sulphate of zinc, gr. j ad ʒj, to be used six or eight times a day. The next day he wrote to inform me that all the symptoms had entirely disappeared, and I have since heard that there has not been any return of them.

“CASE 2.—In this case the whole penis was exceedingly swollen, and there was great constitutional disturbance. Ordered antimony and saline aperients, sugar of lead lotion, rest, and low diet. A week of this treatment having sufficed to get rid of the swelling and fever, an injection of sulphate of zinc, gr. j ad ʒj, was directed to be used four times a day. As, however, a week passed by and the discharge still continued, although the zinc had been increased to gr. ij, cupri sulph. gr. j ad ʒj was substituted for the zinc. On the fourth day after com-

encing with the copper the discharge had completely ceased, and the patient has remained quite well.

"CASE 3.—This commenced as an ordinary case of gonorrhœa. An injection of zinci sulph. gr. ij ad ʒj, was prescribed four times a day. On the third day the patient was decidedly better, but on the fifth inflammation showed itself in the left testicle. The injection was at once discontinued, and the usual remedies for orchitis were commenced with. On the fourth day, the orchitis having disappeared, the injection gr. j ad ʒj was resumed, and in a week the patient was quite well. This patient, whom I have not seen since, informed me that he had suffered from inflammation in the same testicle during a previous attack of gonorrhœa, although he had not then been treated by injection; so that the orchitis cannot be reasonably attributed to the injection."

ART. 190.—*On Latent Gonorrhœa in the Female Sex.*

By ANGUS MACDONALD, M.D.

(*Edinburgh Medical Journal*, January.)

In an elaborate paper on this subject, the author discusses the views enunciated by Dr. Emil Noeggerath, of New York, who maintained that the wife of every man who at any former period of his life had been affected with gonorrhœa, even though the cure had been apparently perfect, was affected, with very few exceptions, with latent gonorrhœa, which sooner or later brings its existence into view by establishing some form of uterine disease, often of great gravity. Without going so far as Dr. Noeggerath, the author thinks it certain that even an apparently cured gonorrhœa in the husband may prove a complication fraught with extreme danger to the female, and when pregnancy occurs, one which is apt to give rise to dangerous and even fatal forms of puerperal fever. He thinks these cases prove that, if a man marries with the slightest shade of a gleet, he exposes his wife to great misery throughout her menstrual life, as well as to great risk of her life should she become pregnant.

ART. 191.—*On Diphtheritic Bubo.*

By Professor BOUCHUT.

(*Medical Times and Gazette*, November 29.)

Under the title of *The Treatment of Diphtheritic Bubo*, Professor Bouchut communicates an interesting paper to the *Bulletin de Thérapeutique* of October 15th. Although one of the important complications in diphtheria, croup, and scarlatina, it is not, he observes, much known, and is not to be confounded with the simple glandular enlargement often met with in diphtheritic anginas, and which is frequently regarded

as a sign of diphtheritic poisoning. This bubo is a suppurating adenitis, having nothing specific or toxical in its nature, and which appears to be the result of irritation existing in the vicinity. It is, in fact, only another example of that law of glandular pathology according to which, wherever local irritation is present, there may be set up irritation, inflammation, or suppuration of the corresponding lymphatic glands. Thus, any irritation or wound of the foot or genital organs may induce swelling of the groin; that of the fingers, adenitis of the elbow or armpit; that of the scalp, occipital adenitis; that of the lungs or bronchi, mediastinal adenitis; and that of the mouth or tonsils, ganglionic inflammation of the neck under the angle of the jaw, or in the parotid region. The progress of any of these inflammations may vary much in different individuals, suppuration occurring rapidly in some cases and more slowly in others.

In the diphtheritic and scarlatinal angina, the progress of the bubo is not very acute. At first we find one or more glands swollen but scarcely painful, they seeming lost in the doughiness of the cellular tissue, which constitutes a tumefaction in the submaxillary region extending to near the ear. There is a deep-seated, peri-glandular phlegmon which cannot be arrested, and will go on to suppuration. The tumour becomes hard and painful, without any change in the colour of the skin, and without feeling very hot to the hand. The movements of the neck are difficult or impossible; and if the febrile condition of the angina had abated, it is rekindled, the temperature rising to 38° or 39° and some tenths. By degrees the tumour becomes softer, and is the seat of a deep-placed and uncertain fluctuation, which may continue so for several days, only becoming subcutaneous very slowly. If not opened, it eventually discharges itself, but then there is a considerable collection of matter, and there is a deep detachment of the muscles of the neck, the connective tissue of which has disappeared; symptoms of putridity set in, and the child sinks.

The pus in these cases, at first disseminated, is slow in forming itself into an abscess, and when this has taken place there is already considerable detachment of the deep-seated parts. Here lies the danger of these cases, for when one has the courage to seek for the pus in good time, as soon as its formation has taken place, and before any detachments occur, these buboes heal readily enough. Of twenty-two cases of these abscesses met with in Professor Bouchut's wards, six having been opened in good time were cured, but all the other children died. The sole means, in fact, of preventing the fatal accidents which result from abscess of the neck caused by tonsillar diphtheritis or scarlatinal angina is opening it promptly, and, if necessary, inserting a drainage-tube.

The case which was the immediate cause of these reflections occurred in a child seven years old, who had been cured of a diphtheritis by means of injections of saponized coal-tar. There was only some albuminuria remaining, when the left submaxillary region became inflamed, and the temperature mounted up from 37.2° to 39.3° . Collodion was applied during three days without any result; and a deep-seated fluctuation was believed to be felt. As this is often a deceptive sensation in this region, M. Bouchut postponed interfering for another twenty-four hours. His doubts then continued the same; but fearing that detach-

ment of the deep-seated parts might occur, he ventured to pierce the supposed fluctuating point. A few drops of pus were seen on the blade of the bistoury, which had penetrated to four centimetres, and the opening was enlarged on a conductor. Two days afterwards the aperture had in part closed, pus was only imperfectly discharged, and the tumour was as large as at first—deep-seated fluctuation being perceptible. Having ascertained the size of the abscess by means of a probe, a counter-opening was made, and a drainage-tube inserted. The child did very well.

ART. 192.—*Operation for Removal of the Female Breast by means of India-rubber Ligatures.*

By SIR HENRY THOMPSON, at the University College Hospital.

(*Medical Times and Gazette*, November 29.)

On Friday, November 21st, Sir Henry Thompson performed an operation upon the female breast, which, so far as we are aware, is perfectly new to surgical practice in England. Previous to the entrance of the patient to the theatre, Sir Henry stated that the plan he was about to adopt had been brought recently under his notice during a visit to Vienna by Professor Dittel. An accident, as it were, suggested the treatment to Dittel, who now for some time has employed it in over 200 cases, such as of tumours of the breast, in removing the testes and even limbs, and in the cure of fistula in ano. Having been called upon to see a young girl dying from meningitis, the following account of the case was given him:—

The patient, who had been constantly reproved by her stepmother on account of the untidy state of her hair, was advised some weeks before her death to get a tightly-fitting net for her head, and to wear it night and day. This she did till the last, when it was found that the elastic band of the net had cuts its way through the scalp and cranium, and was resting on the meninges of the brain, fatal inflammation of which it had set up.

The immense power for effecting the solution not only of the soft tissues of the body, but even of bone, having, by the constantly contracting pressure of an elastic band, been thus so remarkably proved, Professor Dittel resolved to attempt in certain cases to substitute this power for the knife in surgical operations.

The application of the treatment to the mammary gland by Sir Henry Thompson we will now describe:—The patient, a woman of about fifty-three years of age, had for ten years been conscious of a tumour in the right mamma. When first noticed it was seated near the nipple, below and to its outer side, and was of the size of a walnut. As it was discovered about the time of her confinement with her last child, which died soon after its birth, she was led to regard the tumour as a “distended milk-duct.” It has gone on increasing, however, though very slowly, and about eight weeks ago the skin covering the tumour commenced to ulcerate. At the time of the operation the histological

characters of the tumour were doubtful. It was of the size of a large orange, ulcerated on the surface, somewhat pendulous, and freely movable upon the subjacent tissue. The patient was a robust and healthy-looking woman. Chloroform having been administered, Sir Henry drew the mamma forward from off the pectoral muscle, and then, with a very long, strong, and slightly curved Liston's needle, transfixed the submammary tissues. Through the eye, near the point of the needle, a long piece of very elastic india-rubber tubing, about the thickness of stout whipcord, together with a long silk ligature, was passed. The elastic ligature was then divided, and the needle withdrawn. Each half of the elastic ligature was tied very tightly, so as to embrace one-half the mamma, inclusive of the skin. In fastening the elastic ligature a piece of silk ligature was placed at right angles to the elastic between the skin and the knot, and while the single knot was tightly drawn, the silk was tied around it by an assistant to prevent its slipping. A double knot was then made, and this was secured by again tying the silk around the elastic.

The long silk ligature which had been passed with the elastic tubing through the submammary tissue was then removed. The purpose of passing this was precautionary, in order that another piece of elastic might be drawn along the same track in the event of either half of that which was first passed breaking. Another precaution very necessary to take is to hold the elastic firmly at the time of dividing it and while withdrawing the needle, otherwise the contractility of the tubing will cause its disappearance through the track made by the needle.

The time likely to ensue before the entire separation of the breast is eight or nine days. The pain excited during any portion of this time is remarkably slight. Sometimes a little pain is suffered for a day or two. In the case of the patient now referred to, there was no pain after the first twenty minutes from the time of recovery from the chloroform, and the suffering during this brief period was not at all severe.

The advantages over the knife which Professor Dittel supposes the elastic ligature to possess are (1), that it does away with the necessity of a cutting operation, and all the horror and distress which the idea of such excites in the minds of many patients; and (2) it is attended by less risk of pyæmia.

ART. 193.—*Cyanopuon Laryngis, or Thyroiditis with Blue Suppuration.*

By SIR DUNCAN GIBB, Bart., M.D.

(*British Medical Journal*, August 30.)

Three-and-twenty years ago, Sir D. Gibb recorded a case of cyanuret of iron in the purulent discharge of chronic disease of the breast, to which he prefixed the name of cyanopuon, and gave a summary of cases published. In October, 1870, an instance of inflammation of the right wing of the thyroid cartilage came under his notice in a single lady of twenty-

seven, which was followed by suppuration. The matter evacuated was of a dark blue colour, like Prussian blue, and continued to flow for some days, finally healing with no inconvenience or subsequent bad result. On chemical examination, the colour of the pus was found to depend upon a salt of iron analogous to Prussian blue, and not to indigo. The case was not only remarkable from the rare nature of the disease itself, occurring without any apparent cause, but also from the discoloration of the matter like Prussian blue. This circumstance was extremely rare, and, therefore, in combination with the suppurative external inflammation, rendered the case unique in the annals of medicine. The chemical experiments were detailed, and some speculations were offered as to the nature of the phenomena which gave rise to the blue pus. The patient had not taken iron internally for many years.

ART. 194.—*A Case of Traumatic Pneumothorax, Illustrating the use of the Aspirator.*

By HERBERT PAGE, M.B., Carlisle.

(*British Medical Journal*, August 30.)

The history of a case was detailed in which, owing to the wound of the lung from in-driving of a fractured rib, there was pneumothorax, with total collapse of the right lung. The case was, from the first, an urgent one; the dyspnœa and collapse being both extreme. The chest was punctured for hours after the accident by Dieulafoy's canula; and, on exhausting air from the pleural cavity by means of the pneumatic aspirator, immediate improvement in the condition of the patient followed. At the time of the operation, blood was drawn into the receiver; and examination of the chest on the day after the injury revealed dulness on percussion at the base on the right side. This was due to the presence of blood; and the aspirator was subsequently used three times for the removal of this blood, and the further withdrawal of air from the cavity of the pleura. The patient made a good recovery, and the lung was restored to its normal state. In the remarks on this case the writer, while admitting the advantages of Dieulafoy's canula as an instrument for puncturing the chest, called attention to the possible source of danger from hæmorrhage into cavities exhausted of their contents by the aspirator.

ART. 195.—*On some of the New Growths developed in the Breast associated with Cysts.*

By JOHN BIRKETT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xviii., 1873.)

Nine cases are given in detail, illustrating the various forms of new growth which are met with in connexion with cysts in the mammary

region, and the author proposes a mode of classifying cysts of the breast, which, as it differs somewhat from the classifications commonly employed, we copy for our readers' edification.

CYSTS IN THE BREAST.	I. Associated, communicating, or connected with the ducts.	1. Milk.	
		2. Growths ; with serum coagulable, and sometimes tinged with blood.	<div> <div>1. Adenoid.</div> <div>2. Granulation cells.</div> <div>3. Cancer.</div> </div>
	II. Not connected with the ducts.	1. Blood.	
		2. Milk.	
		3. Simple cysts.	{ Serum not coagulable.
		4. Entozoon cysts.	
		5. Growths ; with serum coagulable, tinged with blood, and containing cholesterine.	<div> <div>1. Adenoid.</div> <div>2. Granulation cells.</div> <div>3. Cancer.</div> </div>

Mr. Birkett's paper is illustrated with two fine plates, each containing two figures.

ART. 196.—*A New Apparatus for the Treatment of Fractured Ribs.*

By C. A. HEMINGWAY, Esq., Dewsbury.

(*British Medical Journal*, August 30.)

The apparatus described by Mr. Hemingway was one which he had some months ago employed in his own case, having unfortunately broken his ribs by a fall. It consisted of a case of soft leather, formed so as to accurately fit the chest, without impeding the action of the abdominal muscles and diaphragm. The back portion, being continued upwards, overlapped and pressed on the scapulæ. Inside the lining of the case a layer of cotton wadding might be placed if necessary. Between the case and lining eight pockets were formed, three on each side, and two, larger and deeper, behind. Into these pockets were introduced splints ; for which the author preferred pasteboard soaked in hot water, bent so as to adapt itself to the chest, and dried. The splints should be applied on that side only of the chest where the fracture existed. To assist in keeping the fractured portions in apposition during the movements of respiration, he placed elastic bands between the pockets. The apparatus was fastened around the chest and over the shoulders by straps and buckles. The apparatus and a photograph of its application *in situ* were shown.

ART. 197.—*History of a Case in which a Knife was swallowed and passed through the Abdominal Wall, after an Interval of Nine Weeks.*

By EDWARD LUND, F.R.C.S.

(*Liverpool and Manchester Medical and Surgical Reports*, 1873.)

A female, twenty-six years old, during an attack of delirium tremens, swallowed a dessert knife, the metal part of which measured six inches

and a half. Eight weeks later a globular swelling made its appearance in the right side nearly on a level with the umbilicus, and the sharp edge of a foreign body could be felt distending the skin, which was freely moveable over the tumour. After some days the blade of the knife protruded through the skin, and was easily removed by slight traction without additional incision. The ivory handle had been entirely digested and the extremity of the blade was rendered very thin by the action of the gastric juice. The nervous shock was considerable at the time of the removal of the offending body, but a good recovery was made without the formation of a gastric fistula.

ART. 198.—*Case of a Foreign Body in the Bladder with Stricture of the Urethra.*

By EDWARD LUND, F.R.C.S.

(*Liverpool and Manchester Medical and Surgical Reports*, 1873.)

An engineer, aged thirty-three, had suffered from stricture for thirteen years, and for the last four had been in the habit of passing bougies himself. Having used a flexible No. 3, instead of a number 4, while the bladder was very full, the bougie slipped from his grasp and disappeared, the ivory knob remaining in his hand; after five days he began to experience pain upon urinating, which increased until the advice of a surgeon was sought. Mr. Lund, aided by the history of the case, detected a soft foreign body in the bladder, and as soon afterwards as the business of the patient permitted, undertook an operation for its removal. Six ounces of water were first injected into the bladder through a small catheter, and the stricture was split by a Holt's dilator. A small-sized Coxeter's lithotrite was then introduced, but the foreign body could not be felt; ultimately, the bladder having been partly emptied, the offending substance was found, caught between the blades of the lithotrite, and easily withdrawn entire, there being very little deposit on it. The patient was treated as recommended by Mr. Holt for a ruptured urethra, and did well until the fourth day, when, as Mr. Lund thinks, owing to imprudent exertion, severe urethral fever was developed, which went on to the formation of pyæmic abscesses. After a serious illness, prolonged through five months, the patient recovered with the stricture cured.

ART. 199.—*Mr. Gutteridge's Operation for Stone in the Bladder.*

(*Medical Times and Gazette*, November 15.)

Mr. Gutteridge performed his operation for vesical calculus on Monday, November 3rd, at St. Peter's Hospital for Stone. Mr. Gutteridge's scheme consists of two parts—viz., to use his own words, "of a due combination of incisions of parts ascertained by extended experience to be capable of being safely severed; and of implements with which the

successive stages may be most surely and with least danger accomplished." The patient was a boy sixteen years of age, a native of the Black Country, and was submitted to operation without being anæsthetized, as Mr. Gutteridge has a strong objection to chloroform or ether in lithotomy. Kneeling before the patient when in the lithotomy position, and with his eye thus in a line with the perineum, the operator first passed the staff, which he handed to his assistant; he then made very firm pressure with the fingers of his left hand upon the anus, thus dragging the skin of the left side of the perineum, with the lower extremity of the gut, well over towards the right tuber ischii. He next rapidly plunged the scalpel into the groove of the staff at a point a little to the left of the raphe, and on a level with the anterior extremity of the tuber ischii, and then, without running the scalpel along the groove, he made it cut its way through the soft tissues. Next he passed the beak of the cystotome into the roughened groove, and, with the cutting edge directed a little upwards from the horizontal direction, he passed it onwards through the prostate, and then turned the edge downwards and brought it out at the lower extremity of the skin-wound. This done, he passed his left index-finger into the bladder, felt the stone, then withdrew the staff, and passed in along the finger a grooved conductor, much like a narrow blunt gorget, and along this, after withdrawing the finger, he guided the forceps, only one blade of which was in the groove of the conductor. The stone was seized and at once withdrawn, and the operation thus completed.

It will be understood from this account that the method differs from that adopted by other surgeons in that :—

1. No anæsthetic is administered.
2. That in dividing the structures in the ischio-rectal fossa the scalpel is thrust by one plunge into the groove of the staff at the point of the anterior extremity of the wound; and that owing to the traction made on the anus, the incision through the skin, when the parts are relaxed, is seen to extend over the tuber ischii.
3. That the incision whereby the bladder is opened is semilunar in shape, and describes a curve constituting an arc (as Mr. Gutteridge states it) of 100° of a circle.
4. That the forceps are guided into the bladder along a grooved director, instead of along the left index-finger.

Mr. Gutteridge spares, if possible, the membranous portion of the urethra, and lays open only the prostatic part. His aim is to make his knife enter the canal at the apex of the prostate gland.

For these modifications in the procedure special instruments are provided. These were recently shown to members of the British Medical Association, at the forty-first annual meeting, in August, a description of which Mr. Gutteridge has himself given as follows:—"A table constituted of a fixed frame, on which is a sliding top, whereby the patient may be firmly fixed and kept symmetrically in all respects, and yet through which, by means of a simple screw action, the position of *tight-up trussing* may be speedily relaxed, and the pressure on the respiratory and venous systems lightened, so that in a protracted operation rest may be given and renewed efforts made, by intervals, at the operator's pleasure—a resource in the aged and the fat of the very first importance

as respects the sustaining the patient's power of endurance without fatal congestion. The manual instruments consist, first, of a staff, with handle capable of being used by the operator and the assistant at the same instant of time, and with a furrow for the knife to traverse, coiling slightly, and ruffed so that the holder of the knife may have a positive assurance of the knife and staff being in real contact throughout the course of the knife, until it is entered into the bladder. Secondly, an implement consisting of a handle shaped for the finger and thumb, with scalpel mounted at one end; and at the other a beaked knife (properly a cystotome), fixed at a right angle to the scalpel on the axis of the haft, so that one instrument may effect, by a move of the finger and thumb, the two distinct incisions, the external one and that of the prostate. Thirdly, a conductor for the forceps conformable in respect of size to the operator's left forefinger. Fourthly, forceps with supplementary handles, by which the stone may be compressed with hair-light pressure, while increased force is brought to bear on the main arms of the forceps; admitting of the separation of the process of compression and traction; as well as relaxation of the hold of the stone, for the purpose of adjustment of the forceps to the stone, or gentleness of pinch, in case of the stone being of friable material."

The operation for stone performed with these instruments and in this way Mr. Gutteridge would desire to have known as "lithotomy made speedy and safe." Certainly in his own hands, when performed as we saw it, it is rightly so styled. It was done in a remarkably short time—less than half a minute—and every step in the operation was executed with rapidity and precision. The boy has gone on perfectly well since the operation, and within forty-eight hours afterwards the urine was all voided by the natural passage. This, as is well known, is an unusually short time between the operation and the safety of the patient, which is secured by the flow of urine along the urethra. On the eleventh day after the operation the patient returned to his home in Staffordshire, perfectly cured.

ART. 200.—*On the Introduction of Fluids into the Urinary Bladder and the Intestine.*

By Professor A. HEGAR.

(*Deutsche Klinik*, 8, 1873; *Schmidt's Jahrbücher*, No. 4, 1873.)

For the purpose of conveniently introducing certain quantities of fluid with an easily regulated pressure into the bladder or intestine, Professor Hegar recommends a simple apparatus consisting in a funnel which, by means of a gum-elastic tube about one foot or one and a half in length, is connected with a catheter or a clyster tube having an olivary termination. By placing the patient in a certain position the pressure of the abdominal viscera against the introduced fluid may be diminished; the passage of fluid into the bladder or intestine not only meets with no opposition but is actually favoured.

In filling the bladder the patient is placed in a kind of lithotomy position, only with slight elevation of the upper part of the body. In order to pre-

vent the introduction of air the catheter is previously filled with water through the funnel, the eye of the instrument being closed as long as possible during the introduction. After the introduction of the instrument into the bladder the latter can be filled at will by the elevation of the funnel, and emptied by its depression. With the latter movement the contents of the bladder flow back into the funnel; it is possible, therefore, to change the fluid by drawing it off and by introducing fresh water or medicated fluids. Should the bladder in cases of hypertrophy or contraction be distended by gradually increased filling, the abdominal position, on account of the absence of pressure, would then be preferable.

In order to introduce fluids into the intestinal canal, especially into a portion seated high up, the best position in which to place the patient is on the elbows and knees; or that in which the patient is supported on the regions of the knees and shoulders, and the thorax is brought close to the pelvis. With slight elevation of the funnel the fluid rushes in and reaches to the elevated portions of the canal, which is of great advantage when one endeavours to supply nutriment through the large intestine. From five to eight pints of fluid may thus be conveniently introduced before the sphincter muscle yields. Professor Hegar recommends this as a much more convenient and efficacious plan than that of the forcible injection of water recommended by Simon, and especially for the reason that by elevation and depression of the funnel one can closely regulate the pressure of the introduced fluid.

ART. 201.—*A Successful Case of Abdominal Section for Intussusception, with Remarks on this and other Methods of Treatment.**

By JONATHAN HUTCHINSON, F.R.C.S., Surgeon to the
London Hospital, &c.

(*The Lancet*, November 22.)

The author first narrated the particulars of a successful case in which he had opened the abdomen for the relief of intussusception. The patient was a child aged two years. The intussusception had commenced at the cæcum, and was of such length that its extremity, presenting the inverted ileo-cæcal valve, was extruded several inches at the child's anus. The condition had been one month in course of development; latterly the case had been treated as one of prolapsus, and attempts had been made to keep the bowel in place by means of a cork pad. The child was very ill, and the author having failed in attempts to effect reduction by enemata, &c., and having had experience of several similar cases which had ended fatally, determined to operate. The child was put under chloroform, and the abdomen was opened in the middle line, below the umbilicus. The intussusception was then easily found, and as easily reduced. The after-treatment consisted only in the administration of a few mild opiates, and the child made a rapid recovery.

* Read at a Meeting of the Royal Medical and Chirurgical Society, November 11th.

The author next narrated briefly the particulars of three somewhat similar cases in which he had been consulted, and in which the intussuscepted bowel could be easily felt by the finger in the rectum. In all three, in spite of persevering treatment by injections, bougies, &c., the patients had died unrelieved.

Without attempting anything like a statistical analysis of recorded cases, the author appended to his paper, in tabular form, the notes of a very considerable number of cases bearing upon the diagnosis and treatment of similar lesions.

From the consideration of these the following conclusions were suggested:—

1. That it is by no means very uncommon for intussusception to begin at the ileo-cæcal valve, and to progress to such a length that the invaginated part is within reach from the anal orifice or even extruded.

2. That it is of great importance in all cases of suspected intussusception to examine carefully by the anus.

3. That in almost all cases of intussusception in children and probably in most of those in adults, the diagnosis may be made certain by handling the invaginated part through the abdominal wall.

4. That the prognosis of cases of intussusception varies much; first, in ratio with the age of the patient, and, secondly, with the tightness of the constriction.

5. That in a large proportion of the cases in which children under one year are the patients, death must be expected within from one to four or six days from the commencement.

6. That in the fatal cases death is usually caused by shock, or by collapse from irritation, and not by peritonitis.

7. That in many cases it is easy, by estimating the severity of the symptoms (vomiting, constipation, &c.), to form an opinion as to whether the intestine is strangulated or simply irreducible.

8. That in cases of strangulated intussusception, whilst there is great risk of speedy death, there is also some hope that gangrene may be produced, and spontaneous cure result.

9. That in cases in which the intussuscepted part is incarcerated and not strangulated, there is very little hope of the occurrence of gangrene, and it is probable that the patient will, after some weeks or months, die, worn out by irritation and pain.

10. That the chances of successful treatment, whether by the use of bougies or by the injection of air or water, are exceedingly small, excepting in quite recent cases, and that if the surgeon does not succeed by them promptly, it is not likely that he will succeed at all.

11. That the cases best suited for operation are those which have persisted for some considerable time, and in which the intestine is only incarcerated, and that these cases are also precisely those least likely to be relieved by any other method.

12. That in the cases just referred to, after failure by injections, bougies, &c., an operation is to be strongly recommended.

13. That the records of post-mortems justify the belief that, in a considerable number of the cases referred to, the surgeon will encounter no material difficulty after opening the abdomen.

14. That the circumstances which might cause difficulty are—(1) the tightness of the impaction of the parts; (2) the existence of adhesions; and (3) the presence of gangrene.

15. That, in selecting cases suitable for operation the surgeon should be guided by the severity of the symptoms to an estimate of the tightness of the strangulation, and as to the probability of gangrene having already set in.

16. That in cases in which the patient's symptoms are very severe, or the stage greatly advanced, it may be wiser to decline the operation, and trust to the use of opiates.

17. That the operation is best performed by an incision in the median line below the umbilicus.

18. That in cases of intussusception in young infants (under one year of age) the prognosis is very desperate, scarcely any recovering excepting the few in whom injection treatment is immediately successful, whilst a large majority die very quickly.

19. That the fact just mentioned may be held to justify, in the case of young infants, very early resort to the operation.

20. That it is very desirable that all who, in the future, have the opportunity for post-mortem examination of intussusception cases should give special attention to the question as to whether an operation would have been practicable, and should record their results.

ART. 202.—*On the Treatment of Vesico-vaginal Fistula when the Urethra, Neck, and Floor of the Bladder has been destroyed.*

By G. KIDD, M.D.

(*Dublin Journal of Medical Science*, April.)

Dr. Kidd relates a severe case of this kind in which he effected a cure by closing the whole vagina, leaving only a small aperture anteriorly to serve as a urethra. This he effected by paring the mucous membrane of the inner surface of the labia and posterior wall of the vagina. He then placed a No. 10 catheter close up under the arch of the pelvis, and then brought the hard surfaces into contact by means of four deep-quilted sutures and some superficial wire sutures, just as in an operation for ruptured perineum. After removal of the sutures perfect union was found to have taken place. A spring pad like a truss, invented by M. Trélat, of Paris, was then fitted on to the orifice of the urethra, and the woman was then able to retain the urine perfectly in any position. The fact that the patient is unsexed by this operation is, he thinks, a secondary consideration in such a state of things.

ART. 203.—*Renal Abscess containing Calculus relieved by Operation.*

By THOMAS ANNANDALE, M.D.

(*Edinburgh Medical Journal*, April.)

An interesting case of this is related by Dr. Thos. Annandale. The

subject of it was a farmer, aged sixty-three, who had for nearly twelve months suffered from uneasiness in right lumbar region, to which he had given but little attention. He had been under treatment for gastric and renal derangement, by Dr. Dewar for six weeks, when Dr. Annandale was called to see him in consultation on the 29th April.

There was at this time tenderness on pressure over the lower half of the right kidney, and below it in the direction of the ureter. A very slight fulness in the same region was noted, but no marked swelling could be detected. The patient was much emaciated and exhausted from the irritative fever, the signs of which were most apparent. No fluctuation could be felt, and the introduction of a fine trocar and canula into the right lumbar region gave no result.

Dr. Annandale saw the patient again 23rd May, when his "local symptoms were unchanged, except that through the anterior abdominal wall there was a feeling, not very distinct, of deep fluctuation immediately below the region of the affected kidney. His general symptoms were much worse, and he urgently begged me to try and do something for his relief, as he felt sure that he could not live twenty-four hours longer in his present state.

"After a careful consideration of his case, my colleague and myself felt very sure that there must be suppuration in the region of the right kidney, and as the patient's condition seemed hopeless unless relief was given, it appeared to us that an exploratory incision was the proper and justifiable proceeding. The patient's consent having been readily obtained, chloroform was cautiously administered until complete anæsthesia was produced. I then made an incision through the abdominal wall on the right side, in the situation and direction of the incision employed for the ligature of the common iliac artery, except that it did not extend quite so high up. The peritoneum having been exposed, it, together with the abdominal contents, was carefully pushed inwards towards the middle line, until the outer edge of the psoas muscle was reached with the finger. On endeavouring to separate the peritoneum still further towards the upper end of the wound, it was found to be firmly adherent at this point; but after a little careful scratching with the finger-nail the adhesion gave way, and the finger passed into a cavity outside the peritoneum, from which there was a flow of very offensive pus. A little further separation with the finger caused the escape more freely, and also determined the presence in the abscess cavity of a small calculus, which was seized with forceps and removed. This calculus was the size of a horse-bean, oval in shape, and composed principally of phosphate of lime, with a small quantity of the triple phosphate, and a trace of animal matter.

"The abscess having been emptied, its cavity was sponged out with a solution of sulphurous acid, and the edges of the abdominal wound were brought together with sutures, a free opening, however, being left at its lower end for the better escape of pus or other fluids from the cavity.

"The operation gave great relief to the patient, and his progress was most satisfactory up to the fifth day, when for the first time a small quantity of thin feculent matter was noticed to pass by the wound; and there was some pain in, and swelling of, the abdomen, with an increase of the pulse and a rise in the temperature. These symptoms passed off

after the removal by Dr. Dewar of a large quantity of hard fæcal matter which was obstructing the rectum, and the patient without any further drawback made a complete recovery. Small quantities of fæcal matter continued to pass by the wound for nine days after the operation, but from this time no further discharge was observed. At the end of a month the patient was able to walk about, and up to the present time he remains perfectly well and strong."

Dr. Annandale remarks that the case was evidently one of renal calculus, which had given rise to suppuration and ulceration, and had in this way escaped from the kidney. The abscess passing downwards was preparing to empty itself into the ascending colon or cæcum: and had the operation not been performed, and the patient lived, it would in all probability have shortly opened into the intestine, and the pus would have been discharged by the rectum.

"In the treatment of this case I only now regret that the exploratory incision was not made sooner; for, if it had been the patient's sufferings would have been earlier relieved, and the fistulous communication with the intestine prevented.

"I preferred making the incision through the anterior abdominal wall instead of in the lumbar region, because the fluctuation, although never very distinct, could only be felt from the former situation, and the introduction of the trocar deeply into the lumbar region failed to obtain any results. The rapid and complete closing of the fistulous opening was an interesting point in the progress of the case, and proves, I think, that the opening of communication with the intestine was small, and that the free exploratory incision, by allowing the pus to escape readily, tended to prevent further destruction of the intestinal wall."

ART. 204.—*Ovariectomy by Enucleation—Recovery.*

Reported by SAMUEL LOGAN, M.D., Professor of Anatomy and Clinical Surgery in University of Louisiana, and W. H. FORD, M.D., Professor of Physiology in New Orleans School of Medicine.

(*American Journal of Medical Sciences*, July.)

Professor Miner's plan of operating for ovarian tumour being still *sub judice*, it seems to be the duty of all who resort to that method to report their results, and under that conviction we record the following case, the early symptoms of which were developed under the immediate observation of Professor Ford, in whose practice the case occurred:—

Mrs. A. H. L., aged forty-two; married; multipara; nervous and excitable; subject to hysterical paroxysms; has not menstruated since birth of last child, now twenty-one months old.

May 12th, 1872.—Has a tumour in hypogastric region as large as the uterus at four months' utero-gestation, ovoidal in shape, moveable.

June 8th.—Tumour increased in size until it now fills the abdominal cavity; everywhere tender on pressure, or even to the slightest touch. Dulness on percussion over abdomen; fluctuation in the neighbourhood of umbilicus. General contour of tumour clearly recognisable; vagina

and cervix normal; uterus immoveable in hollow of sacrum. No foetal heart sound, but a constant murmur closely simulating the placental souffle, most marked on left side.

9th.—Patient in great distress, demanding relief; abdomen tense and extremely painful to touch; fluctuation perceptible over the whole abdomen. Pains, similar to those of labour, coming on every hour or two. The uterine sound could not be introduced more than two and a half inches. Under diet, warm water douches in the vagina, stramonium poultices to abdomen, &c., the acute symptoms ceased after a few days.

The general fluctuation, the presence of bosselated enlargements on the sides of the pyriform mass, the rapid growth, and acute pains, determined the diagnosis in favour of cystic degeneration of the wall of the uterus, or of some of the annexes of that organ.

15th.—Chloral at night; abdominal pains especially severe on turning in bed. Bowels regular; urine very scanty and high-coloured. Fever from time to time, but more in the last two days. Pain in the right iliac region. Appetite and digestion good.

25th.—During last forty-eight hours has had a dribbling of clear watery fluid from vagina. Tapped in linea alba one and a half inch below umbilicus, and one and a half pint of glairy, flocculent, citrine fluid escaped during an hour; and as much more during the ensuing thirty-six hours, when the wound was closed with a bit of strap. Relief decided; very slight inflammation about the puncture. Ordered quinia and iron.

After this patient was tapped seven times at intervals of from five weeks to six or eight days. The last tapping on October 10th. Fluids evacuated in all cases similar; citrine, glairy, and, towards the close of the tapping, almost puriform. Viscidity most marked in fluids obtained from the harder nodular masses of the left side of the body of the tumour. Punctures gave no trouble. The quantity of fluid drawn off at each tapping varied from three pints to two gallons. The puncture made in the last tapping was intentionally kept open by the patient, in view of the relief from oppression, now very urgent, afforded even at the inconvenience of the constant discharge. Notwithstanding the escape of so much fluid, secretion was so rapid that enlargement continued. Puffiness under the eyes; legs and feet cedematous and cold; appetite fair; digestion imperfect; colicky pains; pulse 85. Girth through umbilicus, thirty-four inches; from pubis to ensiform cartilage, fifteen inches.

Nov. 10th, 1873.—Ovariectomy having been decided on, it was performed this day by Professor Logan, assisted by Professor Ford and by Drs. A. H. Cage, C. B. Galloway, and C. B. Galloway, jun., of Canton, Mississippi. The patient having been put under the influence of chloroform, incision was made extending from the point at which the last tapping was performed, and from which the discharge was still issuing, about an inch below the umbilicus to the symphysis pubis. The opening into the peritoneal cavity was commenced below, and extended upwards, so as to be certain not to cut into the tumour, which there was every reason to believe was adherent round the orifice of the last tapping. As a rule, it is advisable to open below even when the above condition is not present. The interval between the peritoneum and the tumour is much more easily found below, where the abdominal walls are reflected

from the margin of the tumour to the pubes, than above, where tumour and abdominal walls are closely applied. When the peritoneum was slit open the expected adhesions were found to exist, but they were easily torn loose. Spencer Wells's large hollow trocar and canula, with gutta-percha tube attached, was then plunged into the tumour through the fistula, but so very much softened had the adjacent portions of the cyst-wall become, that it tore like wet paper, permitting the glairy and semi-purulent fluid to flow over the tumour. This complication was promptly met, however, by pressure applied to the lateral abdominal walls covering the tumour, which effectually guided the wave of fluid through the lips of the wound. By this prompt action but little of the escaping fluid entered the cavity of the peritoneum. Most of the cystic contents were evacuated in this way. An immense quantity was thus expressed, most of the other large cysts seeming to communicate with this opening. Indeed, at the last tapping a long canula and trocar had been used and projected in several directions, with the view of effecting just such a communication in order to make the tapping the more effective. After the fluid ceased to flow the usual exploration was made, and the tumour was found tightly and extensively adherent to the abdominal walls on each side. The mass was still so large that it became at once evident that an extension of the incision in the abdominal walls would be required. The incision was, therefore, at once continued upwards and around the umbilicus to about two inches above that point. It was then found that there was also one point of adhesion to the omentum. This was easily separated, and so were the far more extensive lateral connexions already mentioned. In performing this part of the operation particular care was taken to effect the separation at the expense of the cyst-wall, rather than the normal tissues, and the separation was effected with much less trouble than had been anticipated. The tumour was then turned out of the abdomen, and found to be connected with the right broad ligament, by means of a pedicle about two inches broad and about three-quarters of an inch thick. It was quite long enough for clamping, and one of Mr. Spencer Wells's clamps was provided, in case enucleation, which had been determined on, was found inadvisable. Insinuating the index finger through the middle of the pedicle, where it joined the tumour, the operator succeeded with perfect ease in carefully peeling each portion with its vessels from the surface of the former, and in a very short time the whole mass was everted without the loss of half a drachm of blood, and the shreddy pedicle was dropped back into the abdomen. There was some little hæmorrhage during the operation, but it was mostly venous and from the abdominal walls, the veins in that position having been considerably distended, probably from the pressure of the tumour on the ascending cava. What fluid and blood had settled into the pelvic and abdominal cavity were carefully sponged out. The womb, the remaining ovary, and the other parts, were examined and found perfectly healthy; and the wound was closed by silk sutures extending through all the thickness of the abdominal parietes. The line of incision was then glued up with Richardson's colloid styptic; the abdominal walls were supported with long strips of adhesive plaster running across the wound, and extending well round the flanks, and the line of incision was covered with a piece of lint soaked in carbolic oil (1 part carbolic to seven of olive oil).

The patient was then conveyed from the operating-table and placed on her back in bed.

She recovered readily from the chloroform, and did not seem to suffer any marked degree of surgical shock. Pulse, one hour after the operation, 120; skin almost normal; mental condition natural.

Tumour weighed, after evacuation of fluid, 16lb.; estimated weight of fluid lost during operation, say 8lb.; total estimated weight, 24lb. Examination by microscope and otherwise shows usual structure of the multilocular ovarian tumour.

The patient progressed favourably. On the tenth day the stitches were removed; union firm along the whole line of incision, except at one point, where a little suppurative action had occurred. An alum wash reduced this in a day or two. An abdominal waistcoat was applied to support the line of adhesion.

Dec. 1st.—Progress very rapid and uncomplicated; patient sat up on the thirteenth day in bed, and was about her room on the eighteenth day. Afterwards continued to improve on cod-liver oil, quinia, and iron. A dull pain in the lower abdomen, felt after the operation, disappeared by degrees. She fattened remarkably, and on the fortieth day menstruated.

At the present writing, more than four months since the removal of the tumour, she is in perfect health.

ART. 205.—*On the Physiological Result of the Removal of both Ovaries.*

By Dr. KOEBERLE.

(*Montpellier Medical Journal*, January.)

The author states that in women in whom he has removed both ovaries comparatively little change has taken place. The genital organs remain excitable. The character becomes gentle and less excitable. The breasts are not at all atrophied. The women have no tendency to excessive corpulence, unless there has been a predisposition to obesity before the operation. There has been no alteration in the growth of the hair. The quality and pitch of the voice has not been modified. Perfect health has been the rule, but the catamenia have never re-appeared.

ART. 206.—*On Pain in the Stomach.*

By WILSON FOX, M.D., F.R.S.

(*The Diseases of the Stomach*, 3rd edit., London, 1872, 8vo, pp. 236.)

When pain in the epigastric region is complained of, it is often not easy to determine, in the first place, whether or not the painful feeling is really seated in the stomach, and if we come to the conclusion that it

is, to satisfy ourselves as to the morbid condition which gives rise to it. On this point Dr. Fox observes—

“The chief difficulty lies in the discrimination of pain of purely neuralgic character from that which exists in cases of ulcer, and in the early stages of cancer, and a satisfactory conclusion can be formed only by a very careful investigation of the etiological circumstances attending each individual case. Even with regard to these, exceptional conditions are so frequent as to invalidate almost every general rule that can be laid down.

“Purely neuralgic pain is more common in the earlier periods of life after puberty, and especially in the female sex, and is then often attended with other nervous phenomena; but, as has been remarked before, these patients are very liable to ulcer of the stomach. On the other hand, at more advanced ages, cancer may exist for years without any other symptom than violent gastrodynia, which may be completely intermitting in its character, and may be unattended in the intervals of the attacks by any appreciable disturbance of the digestive functions.

“The relation of the pain to the state of the stomach with regard to food may often, however, as pointed out by Abercrombie, afford indications of some importance. Thus pain experienced when the stomach is empty is less common in ulcer and cancer than in the neuroses; while that following the ingestion of food has a gravity inversely proportional to the time which may elapse before the pain is felt. This, if occurring late, may be due to flatulence; though here the possibility of pyloric obstruction should warn us against a too hasty diagnosis. As a general rule it may be stated that even in the absence of hæmatemesis or of signs of pyloric obstruction, pain of great severity occurring early and continuing long after the ingestion of food, especially when associated with vomiting, and when combined with pain in the spine or scapular region, is always to be regarded with grave suspicion of its origin in organic disease.

“The indications obtainable by the effects of pressure in causing tenderness or the aggravation of pain already existing, though of some approximate value, are not such as can be certainly relied on as an absolute test of the nature of its cause. The uneasiness and pain caused by subacute or acute inflammatory action is almost invariably aggravated by this procedure, as is also that arising from ulcer and cancer. In cases, however, of the last-named diseases, much depends on the position of the lesion in the anterior or posterior walls of the stomach, and exceptional instances are recorded where even in these firm pressure has afforded relief. Purely nervous pain, on the other hand (independently of cases of superficial tenderness in the abdominal wall), is sometimes increased by gentle, but relieved by a firmer pressure; and pain from flatulent spasm is often markedly alleviated in the same manner.

“Some other affections which may simulate gastric pain deserve also a brief notice in this place.

“Pain in the course of the transverse colon is among the most frequent of these, and it is often associated with an amount of flatulent distension which may add greatly to the difficulties of diagnosis of its seat. There is, however, generally a distinct difference, especially on

gentle percussion, between the notes to be elicited from the two organs, that arising from a distended colon being the less prolonged, and having a higher pitch. Pain from this source is seldom so much felt at the ensiform cartilage as in the right or left hypochondriac regions, and it frequently extends in the direction of the sigmoid flexure. It is also associated with colicky pains and irregular contractions, which may be seen or felt by the hand, together with borborygmi, distension, and other signs of intestinal flatulence, and with migratory pains in other parts of the abdomen.

“Rheumatic pains in the abdominal muscles are another source of fallacy, which can be best distinguished by their superficial character and by tenderness on pressure and by pain excited by movement.

“Numerous instances, again, have been quoted by various writers of epigastric pain depending on functional or organic diseases of the spinal cord. In the former class of cases, when affecting the skin, this is distinguished by the very superficial tenderness (which disappears on deeper pressure), by the discovery of other painful points in the course of the nerves affected, by the absence of all symptoms referable to the stomach, and by the co-existence of an hysterical diathesis: the distinctive characters of pain residing in the muscles have been already referred to. In the latter case the presence of spinal tenderness, as ascertained by cold, heat, pressure, &c., the co-existence of some perversions of the functions of sensation or of motor power in the lower extremities, and even in the absence of the latter, the symmetrical character of the affection and the relief by rest will generally suffice to indicate (in the absence of symptoms referable to the abdominal viscera) the nature of the affection.”

ART. 207.—*Foreign Bodies in the Female Urethra.*

By WILLIAM STOKES, Professor of Surgery, Royal College of Surgeons, Ireland.

(*Dublin Journal of Medical Science*, October.)

During the past four years there have been, by a singular coincidence, four cases in the author's hands of foreign bodies in the female urethra, these being, in all the cases, hair-pins. Their extraction, when the curved end of the hair-pin is first seen or felt by the surgeon, can generally be accomplished with facility; but when, as is usually the case, one or both points of the hair-pin are first met with, the reverse is the case. The extraction is then accompanied with very great difficulty, especially when one of the points of the hair-pin has penetrated the mucous membrane of the canal, and passed deeply into the surrounding tissues. When this occurs, it is hard to lay down any precise rules as to the method the surgeon should adopt to extract them; but, generally, Mr. Stokes has found the best plan to adopt is to lay hold of any visible portion of the hair-pin with a long-handled forceps, and to force it backwards towards the bladder until one or both points of the foreign

body become visible. When these appear, they should be seized by an assistant with other forceps, and then extracted. But when, as sometimes happens, the hair-pin becomes much bent and altered from its original form, this manœuvre is not possible, and it must then be left to the discretion of the surgeon to adopt whatever plan his own ingenuity may suggest.

Of the cases above alluded to, the most remarkable was one* that was under observation in June, 1869. The chief peculiarities of the case arose from the length of time the foreign body must have been lodged in the urethra or bladder, and the enormous deposit that was found upon it. In this case, Mr. Stokes believes that the pin was originally inserted with the curved end towards the bladder, that it passed up into that viscus, and remained there sufficiently long for it to become so extensively encrusted as it was, and that eventually it made its way out with the curved end foremost, until, at the orifice of the urethra, it became impacted and caused retention of urine.

(*From Notes taken by Mr. A. VESEY.*)

Mary H., aged twenty-eight, by occupation a servant, was admitted into the Richmond Hospital on June 8th, 1869, suffering from retention of urine and great pain in the region of the bladder and vagina. The retention, she stated, had lasted for a considerable time. On examination, the bladder was found distended, and great pain was experienced when the least pressure was made over it. The parts about the orifice of the urethra were found swollen, and protruding slightly through it, the curved end of a hair-pin. On being asked how it got there, she said she did not know. The patient was then laid on a table, the legs drawn up and separated, the forefinger and thumb of the left hand placed at each side of the urethra, so as to prevent laceration during the extraction. The head of the pin was then passed with a forceps, and gradual traction made, but it was found firmly fixed, owing to the large amount of incrustation surrounding the foreign body. It was eventually, however, extracted without any tearing of the urethra. A large amount of urine was then drawn off. A few days subsequently the patient left the hospital and returned home.

ART. 208.—*Acupressure in the Operations of Castration and Amputation of the Penis.*

By WILLIAM STOKES, Professor of Surgery, Royal College of Surgeons, Ireland.

(*Dublin Journal of Medical Science*, October.)

Although acupressure, as a means of arresting hæmorrhage, is not held in such repute amongst many operating surgeons as it was during

* The pin was, in this case, in the author's absence, removed by the clinical clerk.

the later years of Sir J. Y. Simpson's life, there are, in the author's opinion, some surgical operations in which its advantages are superior to any of the other methods of arresting hæmorrhage that the surgeon makes use of. The operations to which Mr. Stokes thinks it is specially applicable are castration and amputation of the penis; in the latter operation its use being specially indicated in cases where the disease necessitating the operation extends very high up, and close to the pubes. In such cases, as well as in those in which a high division of the cord is indicated in the operation of excision of the testis, the difficulties the surgeon has to contend with in arresting hæmorrhage, in consequence of retraction of the bleeding vessels, are at times extreme, and the operation then becomes a source of grave anxiety to the surgeon, and is fraught with much peril to the patient. The method, which may be termed acupressure *en masse*, was not described, either by the late Sir J. Y. Simpson, or by Professor Pirrie in his interesting memoir on Acupressure, nor is it original with him, as Mr. Stokes saw it practised some years ago by his friends, Mr. Porter and Professor Macnamara, in the Meath Hospital, when he was officially connected with that institution. The method is a modification of the third method of acupressure, as described by Professor Pirrie, the difference being that, instead of one bleeding vessel included between the pin and the wire, there are several, together with, necessarily, the intervening tissues. The procedure is unquestionably less painful than ligature *en masse*; less tedious than, and, Mr. Stokes believes, equally efficacious as the deligation of each vessel separately. It is more secure than the method of charring by a red-hot iron the cut surface of the cord, and, in the author's experience, much more so than torsion of the vessels, and it has an advantage that none of the others possess, in addition to the rapidity and facility with which it can be applied, and that is, that it effectually prevents the possibility of the recurrence of the unfortunate accident of retraction of the cord into the abdomen, before the hæmorrhage has been effectually arrested. Mr. Stokes has employed this method of acupressure in four, out of six, cases of castration, and in three, out of seven, cases of amputation of the penis. In these three cases, owing to the large amount of disease present, the amputations had to be performed close to the pubes. In all these cases the results were most satisfactory.

Several cases are reported which prove how effective this method of acupressure is in arresting hæmorrhage during the operation of excision of the testis. In some of the cases there was no hæmorrhage of any consequence whatever, either during, or subsequent to, the operation.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 209.—*On the Supposed Rheumatic Paralysis of the Radial Nerve.*

By Dr. PANAS of Paris.

(*Archives Générales de Médecine*, Juin, 1873.)

"1. In an immense majority of cases, not to say in all, idiopathic.

paralysis of the radial nerve is due to slight and temporary pressure on the nervous trunk.

"2. This compression acts invariably on that portion of the nerve which is superficial and resting on a resistant portion of the humerus. Hence the exact limitation of this paralysis.

"3. The compressing agent is represented by the weight of the body, or rather the head supported on the arm, which serves as a pillow.

"4. Prolonged decubitus on the side is an indispensable cause of the production of paralysis.

"5. This decubitus is almost always taken in profound sleep.

"6. Intoxication and extreme fatigue act in the same way as lethargic sleep, and therefore favour the production of paralysis.

"7. The cause of the compression of the nerve may at first be overlooked. The development of this paralysis is sometimes slow and progressive.

"8. I have never yet met with an instance in which the paralysis could be attributed to cold, and the number of cases of radial paralysis that I have observed exceeds thirty.

"9. Anatomy, pathological physiology, as well as the etiology and symptoms of this paralysis compared with paralyzes due to mechanical causes, concur in assigning to it a place among the latter.

"10. Cold and rheumatism cannot explain the peculiarities presented by radial paralysis, whilst all may well be explained by admitting compression as a cause.

"11. This form of paralysis is invariably and rapidly curable by electricity, a fact which proves that the compression of the nerve is neither forcible enough nor sufficiently prolonged to cause any morbid change. Conservation of the electrical contractility of the muscles demonstrates the same thing."

ART. 210.—*Some Remarks on Onychia Maligna.**

By WILLIAM MACCORMAC, F.R.C.S.

(*British Medical Journal*, August 30.)

Onychia maligna is a rather common disease in Belfast, where Mr. MacCormac formerly practised; it affects principally the girls employed in flax-spinning mills. During the ten years from June, 1863, to June, 1873, there were 217 cases of this malady among the patients of the Belfast General Hospital, being 2·2 per cent. of the total surgical outpatient cases; 115 occurred in girls between the ages of ten and fifteen, and 63 between the ages of fifteen and twenty. One hundred and eighty-four were mill-workers. In his experience, Mr. MacCormac had found local applications and evulsion productive of only temporary benefit. The only efficient treatment was the complete excision of the secreting stratum at the root of the nail; a severe operation, and one which required local or general anæsthesia. Lately, the author had read a monograph by Dr. Vanzetti of Padua, advocating the plan, proposed

* Read at the Forty-first Annual Meeting of the British Medical Association.

originally by Dr. Moerloose of Ghent, of applying powdered nitrate of lead to the ulcerated surface. Dr. MacCormac had had no opportunity of testing this remedy among the patients at St. Thomas's Hospital; but, at his instance, it had been used by Dr. Scott in fifteen cases in the Belfast Hospital, with most satisfactory results. According to Dr. Scott, from fourteen days to a month were sufficient for a complete cure. All pain ceased from one to three days after the first application; and the swollen irritable margin of the ulcer gradually disappeared, leaving a healthy granulating sore.

ART. 211.—*Amputation at the Wrist Joint.*

By RICHARD BARWELL, F.R.C.S.

(*British Medical Journal*, August 30.)

Mr. Barwell divided his subject into three heads: 1. The diseases likely to call for this operation; 2. His method of its performance; 3. The advantages of this method. Amputation at the wrist joint was most likely to be called for after severe suppuration of tendinous sheaths, ending in fungoid proliferation of cells, invading and destroying the tendons, and, in great measure, the carpal bones. Mr. Barwell described his method of operation. An incision is carried from the outer point of the scaphoid bone, downwards, across the ball of the thumb to the fold of skin formed in the palm, by flexing the fingers. In this fold a transverse incision is made to the outer side of the fifth metacarpal bone; from the end of this a third incision is brought along the outer margin of that bone to the pisiform. At the back of the wrist, on a level with the joint between the two rows of carpal bones, a transverse cut connects the two perpendicular ones. These two flaps—a short posterior and a long anterior—are dissected up, the knife being carefully kept close to the palmar fascia and muscles of the thumb and little finger, so as to spare the vessels. When the flaps are turned back on the forearm, the surgeon feels for the pisiform bone, and, placing his edge immediately above it, severs the hand from the forearm; then, removing the soft parts for a short distance on the outer side of the styloid process, the operator, with a pair of bone-forceps, cuts off as much of this as may render the end of the bony stump plain and level. The ulnar, radial, and interosseous arteries being secured, the dressing of the stump is effected simply by turning the anterior flap back, sewing its end to that of the posterior, and the edges together. The author stated that the following were the advantages of this mode of operating: 1. The flaps fit accurately; 2. The chief flap is formed of dense tissue accustomed to pressure; 3. There are no ends of obliquely cut tendon or nerve on the stump; all these parts are cut off higher and straight; 4. The stump is square and level; 5. The operation is easier and quicker, there being no possible hitch in the separation of the wrist from the arm.

Mr. Dolman (Derby) pointed out the rarity of cases suitable for the operation.

Mr. Gant (London) feared the loss of supinating power by the section of the styloid process of the radius.

Mr. Hulke and Mr. Hey asked wherein the operation differed from Teale's rectangular amputation.

Mr. Pridgin Teale (Leeds) said that the operation differed from that of his father in the long flap (anterior) containing the principal vessels and nerves, which his father always placed, by preference, in the short flap.

Mr. Barwell, in reply, admitted the rarity of cases suitable for the operation. The styloid process of the radius was removed only at its tip, and the insertion of the supinator longus was left untouched. The operation which he suggested differed further from Teale's amputation, in the stump being covered by tough skin, rendering it more analogous to Pirogoff's or Syme's amputation of the foot.

ART. 212.—*Excision of the Extremity of the Humerus as a Remedial Measure in Cases of Anchylosis of the Elbow-joint resulting from Injury.*

By PATRICK HERON WATSON, M.D.

(*Edinburgh Medical Journal*, May.)

Dr. Watson states that in his experience the results of excision of the elbow-joint in cases of anchylosis resulting from injury have not been so favourable as where disease has been the occasion of operative interference.

"On the one hand, too great a degree of mobility in every direction has been the result; on the other, the union between the divided ends of the bones has been more complete than could be desired, and the movements have been commensurately imperfect."

Hence he was led in the summer of 1871 to operate on a boy by a new method which he conceived "would fulfil every indication, so far as the preserving muscular attachments was concerned, and at the same time enable to effect the removal of as much of the osseous textures as might appear to be necessary. The speculative reasonings which led to my adoption of this method were these:—

"It was quite obvious that, as in most cases of fracture into the elbow-joint, the humerus was the bone alone affected; no changes in the osseous structures of the radius and ulna necessarily resulted from any injury the humerus had sustained; nor even should the radius and ulna be involved in the injury, did the resulting efforts at repair constitute a condition which implied any need for their removal by operation. It was also obvious that the removal of the upper extremity of the ulna necessarily impaired the perfection of the muscular attachments—viz., of the *triceps* and the *brachialis anticus*, and indirectly the power of the *biceps* in flexing the forearm. It was clearly, therefore, very desirable that neither the radius nor ulna should be interfered with, if removal of the extremity of the humerus alone would suffice to remedy the anchylosis.

"The operation I devised for carrying out these theoretical requirements consisted in the following steps:—(1.) A linear incision to be

made over the ulnar nerve to the inner side of the olecranon process rather longer than that usually employed in the ordinary excision of the elbow by linear excision. (2.) The ulnar nerve to be turned over the inner condyle by careful dissection. (3.) A probe-pointed bistoury to be introduced into the elbow-joint in front of the humerus, and then behind that bone, and carried upwards, so as to divide the upper capsular attachments in front and behind. (4.) A pair of bone-forceps to be next employed to cut off the entire inner condyle and trochlea of the humerus, and then introduced in the opposite diagonal direction, so as to detach the external condyle and capitulum of the humerus from the shaft. (5.) The truncated and angular end of the humerus to be cleared, turned out through the incision, and smoothed across at right angles to the line of the shaft by means of the saw, whereby (6) room might be afforded, so that partly by twisting, partly by dissections, the external condyle and capitulum are removed without any division of the cutaneous tissues on the outer side of the arm.

"This operation, it will be observed, by a single linear incision upon the inner side of the arm, enables the operator to drain efficiently the entire area of operation, and through an incision of very moderate limits to remove the entire expanded extremity of the humerus without interfering with any muscular structures, except those of the forearm, which take origin from the osseous tissues actually excised. The result in this instance was perfectly satisfactory, the movements of the forearm being restored so as to maintain a degree of muscular power not usually observed in cases of ordinary excision of the elbow."

Dr. Watson has since practised this mode of operation five times (six in all), and he states that, "with a single exception, a satisfactory result accrued immediately from this operation. In this single case when an attack of osteomyelitis supervened upon the operation, and osseous union was threatened between the humerus and bones of the forearm, the secondary removal of a further slice of the humerus afforded an ultimately satisfactory issue.

"The merits of this operation—which, so far as my observation and reading go, is an original one—consist: (1.) In leaving the attachments of the *triceps* and *brachialis* undisturbed, affording therefore a degree of leverage in the movements of the forearm which cannot be attained when the olecranon, or any portion of the upper end of the ulna, is interfered with or removed. (2.) In limiting the area of operation almost exclusively to within the capsular ligament of the elbow-joint, which seems to secure more speedy healing of the wound than would otherwise occur. (3.) In securing, by the line of incision being internal and posterior, less ultimate surface deformity, a more direct drain for discharge, and a more ready access to the ulnar nerve than by any other method.

"One objection only can be taken to this mode of procedure, viz.—that it does not afford a ready access to the external lateral ligament of the elbow-joint. This, however, is of trivial importance, if the plan of procedure I have laid down be rigorously carried out in the division and removal of the end of the humerus, viz.—(1.) The oblique division of the condyles of the humerus, from above downwards, so as to cut through the articular surface by means of bone-pliers between the

trochlea and capitulum of the humerus. (2.) To cut off the capitulum and external condyle obliquely from the shaft by means of pliers applied from below upwards. (3.) To turn out the end of the shaft and cut off as much of its truncated and conical extremity as may be deemed requisite; and lastly, to dissect and twist away the capitulum and external condyle from their remaining ligamentous and other attachments.

"It may be urged that while this may be easy enough when there is only partial rigidity of the elbow-joint, it is impossible to effect it in cases of complete and absolute ankylosis of the elbow-joint. But such an objector must not fail to recollect that absolute ankylosis of the osseous kind is not a common result of fracture into the articulation, especially when passive motion has been attempted to be kept up after the accident; that in most of these cases it is rather due to the altered form of the osseous surfaces resulting from the fracture and displacement, and that at most the ankylosis is usually fibrous in its character.

"Again, even were it present, forcible flexion and extension under chloroform will, in the great majority of cases, effect such a degree of solution of continuity as will enable the operation to be carried out in the manner already described without any real difficulty. Should any case occur of very dense osseous union of the articular surfaces, rendering the risk of fracture of the olecranon or of the shaft of the humerus, a reasonable danger possibly involved in such strenuous effort, then a transverse section of the humerus with bone-pliers through the condyles, excision of a portion of bone above this level, and piecemeal excision of the ankylosed condyles themselves, by means of the forceps and gouge, would afford an alternative means calculated to remove any ordinary difficulties; while the conversion of the operation into a complete excision of the elbow-joint may always be had recourse to, should insuperable obstacles be found to prevent the execution of the more limited resection."

ART. 213.—*On Excision of the Elbow-joint.*

By C. F. MAUNDER, F.R.C.S., Surgeon to the London Hospital.

(*Operative Surgery*, 2nd Edition, pp. 376, London, 1873.)

In excising the elbow-joint, Mr. Maunder writes :—

"After the usual longitudinal incision, I next let the knife sink into the triceps muscle, and divide it longitudinally into two portions, the inner one of which is the more firmly attached to the ulna, while its outer portion is continuous with the anconeus muscle, and sends some tendinous fibres to blend with the fascia of the forearm. It is these latter fibres that are to be scrupulously preserved. Thus, in concluding the early steps of the operation, two chief points have to be remembered instead of one (care for the ulnar nerve), as hitherto advised. The ulnar nerve, often unseen, must be lifted from its bed and carried over the internal condyle to a safe place; and then the outer portion of the triceps muscle, with its tendinous prolongations, the fascia of the forearm and the anconeus muscle, must be dissected up, as it were, in one

piece, sufficiently to allow of its being temporarily carried out over the external condyle of the humerus."

ART. 214.—*On Dislocations of the Clavicle and Humerus.*

By WILLIAM BROWN, Esq., Callington.

(*British Medical Journal*, August 30.)

In 1846, Mr. Brown reported a case of dislocation of the clavicle at its sternal end; and since that time he had had three other cases under his care. In all, the dislocation was forwards. He had met with only one distinct case of dislocation at the acromial end. In the treatment of the sternal dislocation, he generally applied a long strip of emplastrum roborans obliquely from below upwards over the injury and over the top of the shoulder; after this a wedge-shaped pad was placed in the axilla, a figure-of-8 bandage applied, and the elbow confined firmly to the side. He used the same treatment in his case of acromial dislocation, and also in fracture of the clavicle. In the reduction of dislocation at the shoulder-joint—of which Mr. Brown had had many cases—he employed a method which he considered to be, in a great measure, new; it was always successful, and did not require the aid of chloroform. The patient being placed with his sound side resting firmly against the back of a strong chair, and held there by a jack-towel, steady extension was made downwards and outwards by means of another towel fixed above the elbow. During the extension the head of the bone is guided into its place by the surgeon's hands. Mr. Brown had found injuries of the elbow very frequent, especially in boys; while fractures of the shaft or of the upper third of the humerus were rather rare. The injuries of most frequent occurrence were dislocation—simple or complicated with fracture—of the ulna backwards. Mr. Brown also related the case of a boy, in whom the lower epiphysis of the humerus had become separated from the shaft, which projected through the integument. The projecting portion of bone was sawn off; and after some threatening symptoms, the boy recovered with an useful limb.

ART. 215.—*Sub-spinous Dislocation of Shoulder, and Reduction by Manipulation.*

By H. C. MARKHAM, M.D., of Winthrop, Iowa.

(*American Journal of the Medical Sciences*, October.)

On January 25th, 1873, Dr. Markham was called to visit L. N. B., a large and muscular man, who was suffering much pain in his right shoulder, and gave evidence of having received severe injury of the part. He stated that while riding in his cutter his horse became unmanageable, and he was thrown out, alighting upon his left side. He still with his right hand retained his hold upon the reins, and while in this

position, by a spring of his horse, his arm was jerked violently upward. Half an hour afterwards Dr. Markham reached him, and found the arm dropped to the side and entire immobility present. The contour of the shoulder was decidedly unique; its superior aspect presented a broad flat surface, slightly sloping towards the back. A dinner plate could have easily rested upon this "plateau." Chloroform was administered and reduction by extension attempted; but in spite of the most protracted and varied endeavours the luxation persisted. At length Dr. Markham decided to adopt the plan so successful in hip-joint dislocation—viz., that by manipulation. Grasping the humerus with his right hand, and with the left steadying the scapula, the arm was brought up nearly to the side of the head; he then carried it obliquely backwards and downwards, nearly describing the movement that caused the accident (except in reverse order). As the arm reached a position which pointed to the opposite hip a distinctly audible snap was heard, which with the sudden restoration of the natural rotundity of the shoulder gave evidence that reduction was accomplished. The subsequent tenderness was extreme and protracted, showing that much laceration attended the injury.

Dr. Markham remarks:—

"All surgical authors agree that this form of dislocation is very rare, and it is claimed by some that it is never entire. But cases reported previous to this one prove that the latter actually occurs, and no joint was ever more completely dislocated than the case just reported, as the head of the humerus was felt against the spine of the scapula, and somewhat higher than is usually described. The mode of reduction, which alone seemed capable in this case of being made successful, was that by manipulation. In elevating the humerus the spine of the scapula served as a fulcrum, at the same time the opposing contraction of the supra-spinatus muscle was overcome, and the great pectoral muscles thus given opportunity to move the head into its normal position. Whether this be the correct theory or not, I am positive that it is the right procedure in these cases, and that all other methods are by far more difficult."

ART. 216.—*On Tumours of the Scapula.*

By Dr. DEMANDRE.

(Paris, 1873.)

Tumours of the scapula are more frequent than might be supposed from the small number of cases recorded in France and England. The most frequent forms are cancer and enchondroma.

They never involve the scapulo-humeral articulation.

The starting-point in almost all cases is some thick portion of the bone, as the spine or the axillary border.

Though they may be easily diagnosed, it is always difficult, and in some instances even impossible, to differentiate them from one another.

Their proper treatment consists almost exclusively in ablation of the morbid growth, with more or less resection of the scapula.

These resections have resulted in a decided cure in a little more than half the number of cases. In almost all the remaining cases, the failure was attributable to relapse occurring long after the operation and local cure.

ART. 217.—*Rupture of Axillary Vein during Efforts at Reduction of Dislocated Shoulder of Six Weeks' Standing.*

By D. HAYES AGNEW, M.D.

(*Philadelphia Medical Times*, August 16.)

Dr. Agnew reports the following case of this rare accident:—

The patient, a female aged sixty years, suffered a sub-coracoid luxation of her right shoulder. Several unsuccessful attempts at reduction had been made before she applied to Dr. Agnew for treatment. The dislocation, which was now of six weeks' standing, Dr. Agnew endeavoured to reduce by the method of La Mothe. Failing in his first effort, he tried again, having attached a fillet to the arm. Steady and persevering extension was exerted for several minutes, while an assistant's hand was held in the axilla to guide the head of the bone towards the glenoid cavity. Just after this second effort was completed without success, a sudden and rapidly forming swelling appeared over the right pectoral region, distending in an instant the entire right breast, rendering it exceedingly prominent, and forming a firm but fluctuating tumour.

Simultaneously appeared the most alarming symptoms of marked alteration in the circulation. The patient instantly became cold, clammy, and collapsed; respiration ceased, the eyelids were half closed, and the heart's action was barely perceptible over the apex, and not at all at the radials. Professor Agnew's thumb at once compressed the subclavian artery, while the tongue was drawn forward by a tenaculum, and cold douches, ammonia, artificial respiration, &c., instantly tried. At first it seemed that the patient would die in a condition of fatal syncope; but by the opportune presence of a strong electric battery, the current was quickly passed along the phrenic nerves, and in a few moments feeble respiratory efforts became visible. The application was continued for fifteen minutes, at the end of which time the patient had rallied so that the pulse was plainly perceptible at the wrist, and the surface commenced to show signs of warmth and life.

Preparation had meanwhile been made to ligate the subclavian, but upon removing the pressure it was found that the pulse could be felt at the wrist with a force equal to that of the other side; that the tumour was not tense and distended, and that it did not pulsate, neither did it seem to be filling with any rapidity or force.

The conclusion was therefore educed that the axillary or some other large vein had been ruptured, rather than the artery. No small vessels could have yielded so large and rapid a hæmorrhage. Firm compresses were therefore applied over the swelling, and confined by a broad bandage, while pressure was kept up for two hours upon the subclavian artery, in order to lessen the supply of blood coursing through the arm.

Meanwhile stimulants were freely administered, and artificial heat constantly applied to the extremities, and in three hours reaction was established to such an extent that the patient seemed out of immediate danger.

The swelling, which was accurately defined by the pectoral fascia, extended slowly backward, but did not increase in tenseness. The patient passed a comfortable night, complaining, however, of stinging pains in the arm and breast, but with no further symptoms of depression. From this time onward her improvement was rapid, the pain and swelling gradually subsiding, and in ten days she was discharged from the ward. The blood gravitating downward and backward below the fascia, finally made its appearance beneath the skin, where it remained until it was absorbed, weeks afterwards. Compression was continued for several weeks, followed by stimulating liniments; and now, ten weeks afterwards, having declined any further attempts at reduction, she has an arm which, although stiff and somewhat painful, seems to be forming for itself a new articulating cavity upon the inferior costa of the scapula.

Dr. De Forrest Willard appends to the report notes of twenty-three recorded cases of rupture of an axillary vessel produced by efforts at reduction of old dislocations of the shoulder. Of these cases seventeen are recorded in Hamilton's *Treatise on Fractures and Dislocations*, 4th edition, pp. 563-4; 3 in Erichsen's *Science and Art of Surgery*, Philadelphia, 1869, p. 307; 1 in *American Journal of Medical Sciences* for April, 1865, p. 498, and 1 in *Medical News*, for April, 1873, p. 58. Dr. Willard also includes Adams's case (*Holmes's System of Surgery*, vol. ii.) of rupture of the artery by the same force which caused the dislocation, and to which should be added the similar cases reported by Bérard and by Sir Astley Cooper (*Dislocations and Fractures*, Philadelphia, 1851, p. 334). In Mr. Callender's excellent paper on this subject (*St. Bartholomew's Hospital Report*, vol. ii. p. 96) there may be found notes of two cases not included in Dr. Willard's list. One of these is a case, like Dr. Agnew's, of rupture of the axillary vein only, in an aged female, after efforts at reduction according to White's method. In the other case the artery was ruptured by the direct force of twelve or sixteen men, under the direction of a "bone-setter."

From a study of the cases recorded, Mr. Callender (*loc. cit.*) concludes that "the occasional occurrence of this accident does not rule against the recognised practice of attempting the reduction of old dislocations, but should make us cautious of using movements calculated to overstretch the vessel, such as circumduction and extreme tension, as by White's method."

ART. 218.—*Successful Amputation through the Shoulder-joint.*

By WILLIAM I. WHEELER, M.D., L.R.C.S.I., Surgeon to the City of Dublin Hospital, &c.

(*Dublin Journal of Medical Science*, September.)

Primary amputation through the shoulder-joint being of rather un-

common occurrence in civil practice, has induced Dr. Wheeler to publish briefly the following interesting case:—

“Thomas Cronnally, aged twenty-five years, was admitted into the City of Dublin Hospital, under my care, about five o'clock on the evening of the 7th of January of this year, suffering from a compound, comminuted, complicated fracture of left humerus. It appears he was engaged as a labourer on the Kingstown pier, and on the above-named evening was pouring some oil on the wheels of a steam crane, when the sleeve of his coat caught in the cogs of the wheels, and forcibly dragged in his arm, nearly tearing it from his body.

“*Condition of Limb.*—There was an extensive laceration of the soft parts from just below the elbow-joint to almost the acromion process of the scapula, the arm being more torn on the lower and internal than on the upper and external aspect. The brachial artery was completely severed in three places; the cephalic vein and median nerve were torn across; the bone was broken in four places; the highest fracture being about one inch below the tuberosities, the lowest about an inch and a half above the elbow-joint. The hand was uninjured, and forearm also, except at its upper portion.

“When I saw him, about three-quarters of an hour after admission, he was in a state of collapse, his pulse quick and feeble; there was some blood trickling from the torn vessels. I ordered warm jars to his feet, and some whisky and water, and applied a piece of bandage, with a cork stitched in the centre, round the armpit, the cork pressing on the axillary artery, having knotted the ends firmly above the shoulder. This controlled almost entirely the hæmorrhage, which had continued comparatively freely, considering the lacerated state of the vessels. On account of the excess of the shock I deemed it expedient not to remove the limb immediately, and ordered stimulants to be carefully administered. At half-past nine o'clock, the patient having considerably recovered from his former exhaustion, I proceeded to operate, having first put him under the influence of ether, the time occupied in procuring anæsthesia being ten and a half minutes, and the amount used five ounces, the period he was completely under its influence being sixteen and a half minutes, and the temperature being about 60° F.

“The subclavian artery being compressed, I commenced by making an oval incision, having the deltoid muscle for a flap, and through an opening in the capsular ligament passed in two of my fingers, and turned out the head of the humerus, dividing the attachments to the greater and lesser tuberosities, and then, keeping my knife closely applied to the bone, I made a second flap, corresponding to the one already formed, the axillary artery having been seized along with the flap by an assistant before dividing it. I did not remove any cartilage that may have been attached to the glenoid cavity, such being unnecessary. The axillary artery was tied at once, but some difficulty was experienced in securing two scapular vessels. The ligature used was silk. Some slight hæmorrhage continued after the deligation of the arteries from an angle of the wound posterior to the glenoid cavity of the scapula, which was plugged with lint steeped in carbolic oil, and having shortened some cords of the brachial plexus of nerves, I brought the flaps together with points of suture. If any synovial fluid happened to be secreted, there was suffi-

cient aperture for its escape. I preserved a portion of integument which had been bruised, in hopes that it might recover its vitality. A pad was now placed over the stump, and a roller bandage kept it in position. The patient was put to bed, with hot water jars to his feet, and ordered thirty minims of tincture of opium. At two o'clock a.m. I saw him again; his pulse was 120 per minute; there was some slight oozing from the angle of the wound, which was plugged; consequently I placed a compress over the dorsum of the scapula, beneath the spine, which stopped the hæmorrhage.

"*Daily Notes.*—He got about two hours' sleep after the operation; pulse 125 per minute; ordered ice to suck, claret and beef tea. During the day he slept about four hours. At ten o'clock p.m. he was better, and complained of headache. Ordered thirty grains of hydrate of chloral.

"9th.—Pulse 120, has considerable pain in stump. Compresses, which were applied over scapula, removed; ice, claret, and beef-tea continued.

"10th.—I opened the stump, which was looking healthy, and took off the dressings; the plugs were taken out of the angles of the wound, and the stump was dressed with carbolic oil. I visited him at nine o'clock p.m., and ordered a chloral draught.

"11th.—Has slept well after his draught, but complains of some uneasiness over region of abdomen, bowels not having acted for four days. Ordered aperient pills, to be followed by an enema if necessary.

"12th.—Patient had a good night. The medicine prescribed had the desired effect. One of the ligatures applied to the scapular vessels separated and came away in the dressing.

"On the 15th another ligature came away.

"7th February.—The axillary ligature became detached. The portion of integument I endeavoured to preserve sloughed away. The stump looks very healthy; patient ordered chicken for dinner, and a mixture as follows:—℞. Sulphatis quiniæ, grana xxv; acidi sulphurici diluti, 3ss; aquæ destillatæ, 3vj. M. Capiatur cochleare amplum ter quotidies.

"8th.—Ordered to get up for two hours.

"From this date he gradually gained strength till he was discharged on the 1st of April, perfectly recovered; and, notwithstanding the mutilated condition of the limb, and the consequent difficulty of procuring suitable flaps, there is a well-covered stump."

(D) CONCERNING THE LOWER EXTREMITY.

ART. 219.—*Operations on the Foot.*

By HENRY HANCOCK, F.R.C.S.

(*On the Operative Surgery of the Foot and Ankle Joint*, pp. 473, London, 1873.)

In discussing the operations on the foot, Mr. Hancock gives the five following rules:—

(a.) That we should perform our operation as close to the diseased or damaged structure, and preserve as much of the foot as possible, with safety to our patient.

(b.) That, where practicable, we should cut through the tarsal bones with a saw in preference to disarticulating them.

(c.) That we should avoid the destruction of joints whenever we can do so.

(d.) That disease of one articulating surface does not of necessity demand the removal of the entire bone; as, for instance, when confined to the tarso-metatarsal joints, or to the joints between the cuneiform or scaphoid, it is not always necessary to remove the whole of the cuneiform bones on the one hand, or of the entire scaphoid bone on the other.

In such cases, however, the diseased portion should be removed by a clean cut made with a saw, and not bruised off by a gouge or chisel.

(e.) That whilst the openings in the skin cannot be relied upon as indicating the exact situation of the bone mischief, the existence of these openings, even if there be several, or the thickening and discoloration of the skin and soft parts, do not of themselves contraindicate operative procedure, since, as pointed out by Sir W. Fergusson, the soft parts, when relieved of the source of irritation, will speedily return to their natural condition.

ART. 220.—*On Sub-astragaloid Dislocation of the Foot.*

By WILLIAM MACCORMAC, F.R.C.S.

(*St. Thomas's Hospital Reports*, vol. iii., 1873.)

The author refers to the confusion which prevails among surgical writers as to the nomenclature of the various dislocations met with in the neighbourhood of the ankle-joint, and expresses his preference for such a classification as Broca's; in fact, as pointed out by Mr. MacCormac, there are three distinct forms of displacement which occur in this region, and which should receive distinct names. Thus there may be a dislocation of the entire foot at the tibio-tarsal joint—properly called a dislocation of the foot or ankle; the astragalus may remain in place, while the rest of the foot is displaced backward or to either side—sub-astragaloid dislocation; or the astragalus itself may be separated from all its connexions, in which case alone can there properly be said to be a dislocation of this bone. The sub-astragaloid luxation is believed by Mr. MacCormac to be more common than is often supposed, and he gives in the paper now under consideration details of four cases which have occurred under his own observation, and shows that several cases which have been described by Cooper, Chassaignac, and others, as dislocations of the astragalus, were really examples of the form of injury in question. With regard to *treatment*, Mr. MacCormac judiciously advises that, if reduction be found impracticable even with the aid of tenotomy, the surgeon should temporize, reserving excision of the astragalus as a secondary operation, should it be found necessary.

ART. 221.—*On Perforating Ulcer of the Foot.*

By Dr. DUPLAY and M. MORAT.

(*Archives Générales de Médecine*, Mai, 1873.)

1. *Le mal perforant* is an ulcerative affection of the foot, which is associated with a degenerative lesion of the nerves of this region.

2. The degeneration of nerves on which the ulceration immediately depends has many diverse causes: lesions of the cord or spinal ganglia, section, compression of large nervous trunks, morbid changes in the extremities of nerves.

3. The ulcer, when once established, is accompanied by inflammation affecting all the tissues of the affected foot. These lesions sometimes extend very far from the starting point of the disease (endarteritis).

ART. 222.—*Senile Gangrene of the Foot cured by the Oxygen Bath.*

Under the care of Dr. LÉON LABBÉ, at the Hôpital la Pitié.

(*The Lancet*, August 2.)

This case is eminently illustrative of the good effects of the oxygen bath in cases of senile gangrene. The patient was a man of about fifty. The case began with atrocious pain in the toes of the left foot, and the large toe and the next one soon assumed a dark-red colour, the patches extending in small ribbon-like lines to the articulation of the foot and leg. It was impossible to mistake the beneficial effects of the application of oxygen—the symptoms were almost instantaneously amended. The pain ceased immediately. On removing the oxygen experimentally, the pain returned and the other symptoms got worse. An eschar formed on the large toe has now fallen, and all that is at present left of the disease is a slight pinkish hue of the two toes, extending a little up the foot.

ART. 223.—*Observations on the Surgical Treatment of Ingrowing Toe-Nail.*

By GEORGE STILWELL.

(Pamphlet. London: Churchill, 1873. Pp. 8.)

In the treatment of ingrowing or infleshed toe-nail Mr. Stilwell treats not the nail, as has hitherto been the custom, but the flesh around the nail. He finds the edge of the nail with the probe, and then removes the whole of the granulations and hypertrophied cellular tissue on both sides, if requisite.

ART. 224.—*On Puncture and Aspiration in the Treatment of Diseases of the Knee.*

(*Gazette Hebdomadaire*, No. 22, 1873.)

M. Després, in the month of May, brought before the Surgical Society of Paris a report of a commission appointed to consider a communication from M. Dieulafoy on the treatment of effusions into the knee by puncture and aspiration. M. Dieulafoy's memoir gave reports of twenty-two patients on whom puncture of the knee had been performed sixty-five times. As the author dealt only with serous, sero-sanguinolent, and purulent effusions, a case reported by M. Dubreuil could not be overlooked, since in this the effusion was one of blood complicating a fracture of the patella. M. Dieulafoy does not puncture in cases of this kind.

If the duration of treatment be considered, it will be found that in the majority of cases the new method does not bring about cure in a shorter period than the classical treatment. In some cases, however, reported by M. Dieulafoy the rapidity of the cure was remarkable.

The quantities of fluid obtained by aspiration were moderate: 60 grammes in traumatic hydrarthrosis, 70 grammes in rheumatic hydrarthrosis, 40 grammes in purulent effusions.

Re-production of the effusion was observed in several cases, and puncture performed twice, thrice, and four times.

The report of M. Després shows that in traumatic hydrarthrosis the old method gives results just as good as those of the aspiratory method.

In rheumatic hydrarthrosis aspiratory puncture has no utility.

In gonorrhœal arthritis blistering is to be preferred.

In chronic hydrarthrosis, resisting the classical treatment, aspiration and puncture may be usefully employed.

In the treatment of articular effusions of blood it would be dangerous to puncture.

ART. 225.—*On Arthritis of the Knee and Articular Effusion consecutive to Fractures of the Femur.*

By M. PAUL BERGER.

(Paris, 1873.)

1. Every fracture of the diaphysis of the femur, of the trochanter, and of the neck external to the capsule, is accompanied, if it be complete, by effusion into the articulation at the knee.

2. This effusion appears earlier and in greater abundance the nearer the fracture to the knee, the more intense and the more extensive the traumatic lesion, and the younger the subject.

3. The effusion generally disappears earlier in adolescents than in adults or old people. In the first it leaves great laxity of the articulation; in the second and third it contributes to produce consecutive articular stiffness, by leaving after it lesions analogous to those which are caused by subacute and chronic arthritis.

4. With this effusion in view, and the morbid changes by which it may be accompanied, it seems right to prefer apparatuses for semi-flexion and continuous traction to immovable apparatuses.

5. This effusion results, independently perhaps of a certain amount of obstruction to the returning circulation in the synovial membrane, this obstruction being caused by rupture of the vessels of the periosteum, bone, and medulla; independently also of an arthritis, the existence of which is demonstrated by the results which it leaves. The effusion results from transudation through the cul-de-sac of the synovial membrane of a portion of the serum, which proceeds from half-coagulated blood which constitutes a gelatiniform sanguineous infiltration around the fracture.

ART. 226.—*Femoral Aneurism closely simulating Malignant Disease.*

By G. A. GLOAG, M.R.C.S.

(*British Medical Journal*, May 24.)

Mr. Gloag relates an instructive case of this, occurring in a man aged thirty-seven, of cachectic appearance, who came under Mr. G.'s care, November 5th, 1872, for a tumour which occupied the anterior and inner region of the upper half of the right thigh. "It was bounded above by Poupart's ligament, and had a circumference of twenty-seven and a quarter inches at its centre, the circumference of the sound limb at the same part being sixteen inches. The tumour had a tense, elastic feel and a shiny appearance, the superficial veins were enlarged and prominent, and the disease appeared to have involved all the structures of the limb. No bruit or pulsation could at any time be discovered in it. It gradually increased in size, and on December 20th had attained a circumference of thirty inches. The patient suffered intense pain, which was of a paroxysmal character, and required large doses of morphia or chloral for its relief. During severe pain I found that the tumour became harder, and that it increased in circumference to the extent of half an inch, and again subsided as the pain diminished to its former dimension. The limb was cedematous below the tumour, the result of venous obstruction. Although there were no glandular enlargements nor symptoms of secondary deposit, the cachectic appearance of the patient, the intense pain he suffered, and the rapid growth of the tumour, together with the total absence of pulsation or stethoscopic sound, induced me to believe the case to be one of medullary cancer, for which operative interference was unjustifiable. About six months previously to the time when the patient came under my notice, a tumour, about the size of a small egg, appeared on the upper and inner side of the thigh, accompanied with such severe pain that the patient was unable to follow his occupation, and was obliged to remain in bed. It grew rapidly from week to week, and the pain increased in proportion."

The man died December 28th, and Mr. G. gives the following account of the post-mortem made the next day: "An incision was made from the anterior superior spine of the ilium to the symphysis pubis, and

another from the centre of Poupart's ligament down the front of the thigh. The latter was afterwards prolonged across the inner aspect of the knee, so as to expose the upper part of the popliteal space. On making the longitudinal incision the parts gaped widely, and a thin layer of muscular tissue was exposed. On dividing this the length of the thigh, a mass of clot presenting various shades of colour appeared. Some of it was partly laminated and of a firm consistence, and needed the assistance of the knife for its removal. Nearly fourteen pounds weight of clot was turned out of the cavity, which was bounded anteriorly and to its sides by the skin, a small amount of subcutaneous fat, and a thin layer of muscular tissue; above by Poupart's ligament; below by the quadriceps extensor tendon; and behind by the eroded femur, the abductors, and vastus externus muscles, in a partially disorganized state. The integument showed no symptoms of thinning in any part. The anterior crural nerve was found deeply imbedded in the clot, and was the only recognisable structure in the tumour. An incision was made from the middle of Poupart's ligament to the umbilicus, and thence to the sternum. The kidneys were in a healthy condition; the liver was enlarged, and showed appearances of waxy degeneration. On cutting across the aorta, and dissecting the external iliac artery downwards, it was found that an aneurism existed on the right superficial femoral artery. The femoral artery was then dissected upwards from the popliteal, as well as possible, to the tumour, and the mass removed for preservation. It consisted of a quantity of laminated fibrine, situated in Scarpa's triangle, where it appears to have burst, and this, I believe, took place before the patient applied for medical relief, at which time the tumour was localized, and about the size of two fists. The epigastric and circumflex ilii arteries were considerably enlarged. The upper part of the femoral artery leading into the tumour was pervious; that immediately below it and leading from it was impervious." . . . "This case clearly shows that cachexia, rapid growth, and severe pain must not be accepted as sufficient evidences of cancer. In reviewing the history of this case there are some points which should have suggested its non-malignant character—namely, the absence of lymphatic enlargements, or symptoms of secondary deposit, and of any tendency to ulceration of the skin over the tumour; the favourable family history, and the fact that the tumour was definitely bounded superiorly by Poupart's ligament."

ART. 227.—*Compound Fractures of Left Femur and Tibia ; Dislocation of Left Hand ; Amputation of Injured Lower Extremity ; Recovery.*

Under the care of Mr. W. JOHNSON SMITH, at the
Seamen's Hospital, Greenwich.

(*The Lancet*, November 1.)

John J——, aged thirty-two, a waterman and river-pilot, was admitted on May 1st, 1873, with injuries to the thigh, leg, and the wrist on the left side. Shortly before admission the man was rowing off Blackwall

when his boat was accidentally run down by a large steamer, and whilst swimming he was struck by one of the paddles.

On admission he was found to have sustained the following injuries :— Compound fracture of head of left tibia with much comminution, the lines of fracture extending into knee-joint. A small but deep wound over inner surface of tibia, from which there was free hæmorrhage, which could not be arrested by plugging or pressure. The integument for some distance around the edges of this wound was detached from subjacent fascia and muscles. Compound fracture of shaft of left femur at its middle third, the upper fragment protruding through a large wound in front of thigh; the muscles around the seat of fracture much torn and mixed up with effused blood. Simple dislocation of the hand forwards. The patient was quite sensible when first seen, and did not appear to be suffering from intense shock.

About a quarter of an hour after admission the patient was placed under the influence of chloroform, and the injured lower extremity removed by amputation immediately above the seat of the fracture of the femur. Two antero-posterior flaps of equal length were formed by transfixion. The raw surfaces of these flaps were well washed with a weak solution of carbolic acid, and a thick elastic tube carried from side to side through the stump. The edges of the wound having been fixed together by sutures, the stump was lightly bandaged to a well-padded wooden splint. The dislocation at the left wrist was reduced whilst the patient was under the influence of chloroform. Neither crepitus nor abnormal mobility of the lower extremities of the radius or ulna could be made out on careful examination.

The patient speedily recovered from the immediate effects of the amputation, and progressed favourably during the three following days. On the fifth day he became delirious, and he remained so for four days. During the subsequent week he suffered much from intense febrile disturbance, which seemed to depend on the formation of a large superficial abscess over the right shoulder, and on phlegmonous swelling and deep-seated suppuration in the left forearm. On May 30th an extensive collection of pus was found under the integument of the left gluteal region. The abscess over the right shoulder was treated at first by aspiration, and subsequently by free incision. The collection of matter in the left gluteal region was at once treated by incision. In the treatment of the suppuration along the back and front of the forearm the bistoury was frequently used.

Notwithstanding the free discharge of pus from these regions, and profuse nocturnal perspiration, which lasted during the latter half of May and the first week of June, the general health of the patient during this period remained good, and no signs of serious or progressive exhaustion were presented. The stump from the first had presented a healthy appearance, and at the end of the first week of June was almost completely closed in, the only open wounds being small orifices, one at each extremity of the line of incision, corresponding to the points of exit of the drainage-tube, which had been allowed to remain in the stump for twenty days.

At the end of June the suppurative cavities over the right shoulder and the left buttock had completely closed. The swelling and suppu-

ration in the left forearm still persisted, and there was then much thickening of the soft parts about the wrist. No bare bone could be felt along either of the bones of the forearm. There was abnormal mobility of the hand, great pain on passive movements, and distinct grating at the wrist—symptoms indicating destruction of articular cartilage and general disorganization of the joint. On July 4th the left hand and forearm were confined in an apparatus of plaster of Paris. On July 10th the patient was allowed to get out of bed. The stump was then quite healed, and firm manual pressure could be applied without giving pain. In the second week of August the patient was fitted with a wooden leg, and could then get about without assistance, with which he had not been previously able to dispense in consequence of the inability to use his left hand. On Aug. 20th the patient was discharged from the hospital. At this period there was firm ankylosis of the bones forming the wrist; all the small wounds and sinuses on the forearm had closed, and the integument was pale and healthy in appearance. The movements of the fingers were much impaired, and the extremity quite useless.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 228.—*On the Influence of Changes in the Position of the Uterus on Sterility.*

By Dr. HERMANN BEIGEL, of Vienna.

(*Wiener Medizinische Wochenschrift*, No. 12, 1873; *Schmidt's Jahrbücher*, No. 6, 1873.)

Dr. Marion Sims was, as the author of this contribution proclaims, the first to make clear the subject of female sterility, and to lay down fixed rules of treatment. He proved that conception must result whenever it is possible for healthy sperma to reach the uterine canal, and to come into contact there with a healthy ovulum, it being assumed that both husband and wife are in good general health. The frequency of sterility according to copious statistical inquiries, especially by English obstetricians, may be concluded as one to ten, a prevalence that is so considerable as to render it necessary that we should inquire into the causes of this condition, and ponder over means for their removal.

The genital apparatus, from the entrance to the vagina as far as the abdominal orifices of the Fallopian tubes and the ovaries, may be divided into two sections, one of which is accessible to direct exploration with the speculum and sound, whilst the other is altogether removed from such examination. All the organs belonging to these two divisions may be so affected that, on the one hand, an insurmountable obstacle may be presented to the penetration of the sperma into the tubes and the cavity of the uterus, and, on the other hand, that it may be impossible for the ovulum to advance far enough to come into contact with the fructifying fluid.

One of the most frequent causes of sterility is to be found in altered position of the uterus. Dr. Sims found in 250 married women who had never given birth, 103 anteversions, and 68 retroversions, and in 255 women who had given birth, but had never attained the full term of pregnancy, 61 anteversions and 111 retroversions. From these statistics we learn that, in the first class of cases where sterility is to be regarded as congenital, the anteversions predominate, as the retroversions do in the second class of dealing with cases of acquired sterility. Dr. Graily Hewitt, from 1865 to 1869, treated 296 women for flexions and versions of the uterus; of these, 235 had given birth, 24 had aborted, and 57 had remained quite sterile.

In 11 only out of 125 sterile females did Dr. Beigel fail to find any affection which would serve to account for the condition of sterility; in the other 114 cases the cause could be made out without difficulty. In 34 cases there was an alteration in the position of the uterus, in 26 of these version, in 12 flexion, and in 2 sinking. It has been stated in various quarters, that women in whom undoubted change in the position of the uterus has been known to exist, have become pregnant; this is certainly a fact, and it speaks the more for the mechanical nature of the process of conception. Deviation of the uterus from its normal position, in and by itself, does not constitute any cause of hindrance to conception; such a change of position may render conception difficult by preventing the ingress of the sperma, yet it is not necessarily an insurmountable obstacle. This cannot be said of that not unfrequent condition in which the anterior lip of the os uteri is longer than the posterior lip, and is applied so closely to the posterior wall of the vagina that both these parts form a more or less complete obstruction, and present an insurmountable barrier against the penetration of any foreign body. The causal element in sterility is not so much the degree of inversion as *the relation of the lips of the os uteri to the anterior or posterior wall of the vagina* according as one has to deal with retro- or ante-version.

The existence of a flexion also is no constant cause of sterility, for this abnormal condition does not necessarily result in occlusion of the lumen of the uterine canal. In some cases, notwithstanding the existence of flexion, both the cervical canal and the uterine cavity are quite pervious; in other cases the inner surfaces of the uterine walls are brought so closely into contact as to form a complete obstruction. Where it is almost or quite impossible to separate the uterine walls by means of a sound, the penetration of the seminal fluid is prevented, and absolute sterility will persist so long as this obstruction is not overcome.

It cannot be doubted that the restoration of the uterus to its normal position is the only rational method of removing the sterility. For some years past Dr. Beigel has with the most satisfactory results kept to a strictly mechanical treatment, and has used in preference to other means intra-uterine pessaries. The instrument which Dr. Beigel uses is an elastic ball carried on a stem of hard india-rubber; this stem is traversed for one half its length by a canal, and can be readily slipped over a conductor fixed to the elastic ball, and by means of this can be introduced into the cervical canal. The ball is then distended with air through an appended elastic tube, the end of which is then closed by a clip fixed to a girdle around the patient, so that the escape of air is prevented.

ART. 229.—*The Value of the Corpus Luteum as a Proof of Impregnation.*

By WILLIAM T. BENHAM, M.D.

(*Edinburgh Medical Journal*, August.)

Dr. Benham records the following highly interesting case:—

The subject was a female, aged twenty-nine, who it was impossible could have had sexual connexion with any one for at least several years.

before her death, was admitted into the Bristol Lunatic Asylum in December 1864, suffering from epilepsy. She died on the 26th March, 1873. On examination, the organs of generation externally “presented in a marked degree all the highly characteristic signs of virginity. On removing the uterus, ovaries, and Fallopian tubes, they were found to be in a state of intense congestion, the superficial veins standing prominently out, and being filled with dark-coloured blood. The left ovary was more congested than the right, and on its upper anterior surface, situated rather more internally than externally, was seen a bean-like prominence, surrounded by a plexus of blood-vessels all the more apparent from their congested condition; it was of a polished appearance, and of rather a bluish shade of colour. On examining this body it was noticed that its upper surface presented a small nipple-like projection, apparently formed by the distension of a small portion of the peritoneal covering of the ovary, and containing some soft distending material; some small blood-vessels could be observed ramifying round the base of it. At the centre of this prominence was a small irregular dark spot, as if a small orifice had existed there, and had been closed up by a clot of blood. On making an incision through its long diameter, there was at once seen an oval-shaped cavity filled by a mass of partially decolourized fibrin, and entirely surrounded—except at the point corresponding to the nipple-like process—with a thick yellow substance of considerable firmness, pierced by a number of small blood-vessels which sprang from the vascular plexus surrounding it externally; and on using a magnifying-glass of low power, those minute vessels could be seen traversing its substance, and losing themselves on its inner edge, which was contiguous to the surface of the partially decolourized fibrinous clot filling up the cavity. On measuring this cavity it was found to be five-eighths of an inch in its long, and three-eighths of an inch in its short diameter. The yellow substance surrounding it was found to be of the uniform thickness of one-eighth of an inch, the whole structure measuring seven-eighths of an inch in its long, and five-eighths of an inch in its short diameter. On again examining this yellow substance, it was seen to be of a firm granular-like matter, with many minute oil-globules scattered over its surface; and in parts where the blood-vessels were the most numerous they gave it a pinkish-yellow appearance. It will be at once seen that we have here occurring in the virgin ovary a corpus luteum, possessing such decided characteristics as to make it *per se* quite indistinguishable from the so-called *true* corpus luteum of impregnation of the same period, asserted by many writers—Paterson, Lee, Montgomery, Bernard, Deschamps, Müller, Ramsbotham, and others—never to occur but in the ovary of an impregnated female, and constantly regarded by them as infallible proof of a recent pregnancy.

“Hoping almost against hope that the ovule, which had evidently been only very recently extruded, might still be found in the cavity of the uterus, a section was made through its anterior wall, and on laying it open, there was seen a small circular body, of a reddish-white colour, almost buried in the pulpy purplish-coloured decidual débris, which thickly covered the whole of the interior surface of the uterus. On carefully removing what I could of this decidual matter from its surface, and examining it with an inch lens, it appeared to be more of a pinky-

white colour, and having a fine velvety surface, which, under a higher magnifying power, was seen to consist of multitudes of white filaments. It measured with the decidual matter surrounding it, and which could not be entirely separated from it, one-twentieth of an inch in diameter, and was situated a little more than seven-twelfths of an inch above the os internum, and slightly to the right side of the median raphé of the uterus. As I have already said, under a higher power its surface was seen to be composed of very short white filaments, which gave it much the appearance, only on a smaller scale, of one of the earliest impregnated ova on record, discovered and described by Velpeau as measuring about five-twelfths of an inch in diameter, and the filaments of which were so far developed as to measure one-twelfth of an inch in length. This ovum he stated to be fourteen days old.

“On making a section through this ovule, with the object of examining it more minutely, I noticed that a very small quantity of albuminous fluid escaped from it, and it lost its globular form directly. A partially collapsed cavity of very minute size was seen to occupy its centre, and although I carefully examined the incised ovule and the fluid which had escaped from it, I could discern nothing more of importance.”

This case proves “that an unimpregnated ovule can and has descended into the cavity of the uterus, and remained there for some days without being, as stated by some, immediately washed away with the menstrual fluid, or without, as stated by others, having undergone such rapid dissolution as to have immediately passed away; and, what has been denied by many, that an ovule is ever impregnated in the cavity of the uterus itself, is now made extremely probable. There can, I think, be no doubt that, had this girl had sexual connexion, this ovule might certainly have become a fecundated ovum; unless, indeed, what has never yet been demonstrated is the case, that the menstrual fluid, through which the spermatozoa would have to pass to reach the ovule, possesses the power of destroying those bodies immediately on coming into contact with them. Before passing from this subject, let me state that I think this individual case goes a long way to make it probable that where an ovule is extruded it takes place at the commencement of menstruation more frequently than at any other time. This ovule had evidently been extruded for some time—that is, not less than two days; and that it had not been extruded immediately before death is evident from the fact of its having been found in the cavity of the uterus, embedded in the decidual débris. It must, therefore, have taken some time to have been conveyed there, considering the distance it had to travel; and, besides, the condition of the fibrinous clot filling the cavity it left makes it certain that it had been extruded at least two days previously. It appears, then, that in this case the ovum was extruded at the commencement of menstruation, and that it is usually so in other cases seems, I think, to be indicated by this, that at the time of, and for a day or two previously to, menstruation, a much greater supply of blood flows to the ovaries than at any other period; and the fact of the distended Graafian vesicle sharing in the increased vascularity of the whole structure at that particular time, makes it extremely probable that the extra pressure then put upon the captive ovule should be sufficient to cause it to burst its coverings and to become extruded, and should it not be suffi-

ciently developed to do so at that period, in all probability it would not become extruded until the ovary should be again the subject of increased vascularity; and this seems to show the reason why a menstrual period often passes without the extrusion of an ovule at that particular time. It would appear, then, that the increased vascularity which takes place at the menstrual period goes a long way to explain the mechanism by which an ovule is extruded more frequently at that than at any other time; also there can be no doubt that the increased vascularity is of great importance in producing those changes in the Fallopian tubes and their fimbriated extremities, which result in those parts of the sexual apparatus taking on the turgid and erectile character necessary for the due performance of the function of grasping the extruded ovule and of conveying it to the cavity of the uterus. But where, in cases by no means uncommon, an ovule is extruded, and becomes impregnated at an *inter-menstrual* period, I am bound to believe, from instances which have come under my own observation, that it is owing to the fact that, from some exciting cause more or less potent, the ovaries have taken on an increased vascularity of action resembling that incident to menstruation, and sufficient to extrude a well-developed ovum at an abnormal time."

Bischoff, Casper, and Kirkes believed that the so-called true corpora lutea may be produced independently of impregnation, and that they consequently cannot be received as proofs of pregnancy. That they are right in this conclusion this case materially helps to prove. The fact of a corpus luteum of menstruation having been found to so exactly imitate those of impregnation, if, indeed, this was only a *solitary* instance, must considerably weaken the theory still held by many, that a so-called true corpus luteum is a sure sign of impregnation. When we come to consider why impregnation should make such a vast difference in the appearance and structure of the corpus luteum resulting therefrom—as is said to be the case—it is by no means easy to see the reason why such should be so.

Dr. Benham believes "that the presence of a so-called true corpus luteum, of at all recent formation, in the ovary of a female, has not the slightest legal value whatever in determining the question as to whether impregnation has taken place or not. If that is proved, as I believe it is, by the facts I have brought forward, it should be of considerable importance in its medico-legal as well as in its anatomical and physiological bearings, for in one case at least recorded by Dr. Guy, the existence of a corpus luteum was held to *prove* that conception had taken place, when the uterus itself presented not the slightest signs of such having been the case."

ART. 230.—*Excessive Vomiting of Pregnancy.*

By ALFRED H. McCLINTOCK, M.D.

(Irish Hospital Gazette, May 1.)

Dr. McClintock read a communication on this subject before the Obstetrical Society of Dublin, March 12th, 1873. He included under the above designation all cases where this symptom of the gravid state is so severe and persistent as to threaten the life of the patient. He advocated a resort to the induction of abortion in all these cases, if medical treatment had been found unavailing, and the life of the patient was endangered. A highly-illustrative case was related, where the author recently had recourse to induction, apparently under hopeless circumstances, and saved the patient from inevitable destruction. He took a brief clinical retrospect of the subject, and a table was given of thirty-six cases where abortion had been artificially provoked to rescue the patients from the fatal effects of their excessive vomiting. In twenty-seven of these cases the vomiting was arrested, and the patients perfectly recovered; whilst in *nine* instances, although the vomiting was stopped, still ultimate recovery did not take place, partly in consequence of the operation having been too long delayed, and partly from the effect of some intercurrent complication (*e.g.*, diarrhœa, hæmorrhage, puerperal fever, biliary calculus, &c.) not fairly attributable to the operation itself. The author cited fifty cases (from various authentic sources) where death had actually taken place in consequence of the persistence and uncontrollable severity of the sickness. With reference to the etiology of this vomiting, he briefly alluded to each of the theories that had been put forward by different authors to account for its production, and showed their inapplicability to the great majority of cases; and he completely refuted the notion, so strongly advocated by Dr. Grailly Hewitt, that some displacement of the gravid uterus was the cause of vomiting in every instance. He was at pains to distinguish between the vomiting that occurred *in* pregnancy (from some concurrent disease) and the true vomiting *of* pregnancy. Whilst enforcing extreme caution in the former class of cases before any recourse be had to artificial abortion, he still thought that this alternative measure might be justifiable in some cases of this description, and referred to instances in his table in support of the opinion. He concluded his essay with a detailed clinical history of a case in which he had recently induced abortion. It was the lady's first pregnancy, and the sickness began about five or six weeks after impregnation. She was reduced to the very last degree of prostration and weakness when abortion was provoked, insomuch that the preservation of her life seemed scarcely possible; nevertheless, she made a good recovery, and has again become pregnant.

Dr. Lombe Atthill considered the vomiting of pregnancy to be generally a useful, not an abnormal, symptom; and thought that, in some cases at least, it was due to distension of the os internum, instancing the occasional production of nausea on the passage of a uterine sound, and by the passage through the os internum of clots in dysmenorrhœa as

examples of vomiting occasioned by such a cause. In cases of excessive vomiting, abortion, he believed, ought to be adopted when the patient is sinking.

Dr. Churchill, also, did not believe in the flexion theory as the cause of the vomiting in pregnancy. A retroverted pregnant uterus was not of common occurrence. He thought that various conditions (granular inflammation, &c.) of the cervix uteri, cervical canal, or os internum might be a cause of the sickness; and he remarked that he had seen typical cases of morning sickness in women who were not pregnant. He, Dr. Churchill, had seen seven cases of extreme vomiting, five of which were fatal. The early suffering in these cases was generally that of exhaustion, but sometimes there was inexplicable agony. The great difficulty in these dangerous cases is to arrive satisfactorily at a determination of the time at which the operation should be performed. The best guide was the condition of the pulse. In all the bad cases he had seen the pulse became very high; and when the pulse rises the question of operation should be at once taken into consideration, and not postponed too long, because if the patient be allowed to run down she will not rally.

Dr. J. A. Byrne had only seen one fatal case from excessive vomiting in pregnancy. The patient was a delicate woman, four and a half months pregnant. He did not think the symptom depended upon alterations in position of the uterus, as he had seen instances of pregnancy in cases of retroflexion of the uterus without any vomiting; and in these cases of excessive vomiting during pregnancy the uterus was generally found in its normal position. He, Dr. Byrne, thought that the symptom in question was due to the stretching of the fibres of the uterus, and that the Chairman's explanation would not apply. Change of air was of benefit in the treatment of these cases, as was also the oxalate of cerium and the hypodermic injection of morphia; but we should be extremely circumspect about recommending the operation of the induction of abortion—1st. Because it was a line of practice which might be adopted too generally; and 2nd. Because of the speedy manner in which these cases sometimes suddenly recovered.

ART. 231.—*On Extra-Uterine Pregnancy.*

By Professor BÉHIER, of Paris.

(*Gazette Hebdomadaire*, No. 36, 1873.)

The following is part of a clinical lecture, delivered at the Hôtel Dieu, Paris:—

“The different varieties of extra-uterine pregnancy may be thus classed in their order of frequency: 1. Tubal pregnancy; 2. Abdominal pregnancy; 3. Ovarian pregnancy; 4. Interstitial pregnancy.

“1. *Tubal pregnancy* is the least uncertain variety, and the one that can be most easily interpreted. Here the fœtus has clearly been developed with its placenta in the Fallopian tube; the mucous membrane

becomes hypertrophied and very vascular; the veins and capillaries form veritable sinuses, into which sink the villousities of the chorion. The muscular layer of the Fallopian tube becomes thickened, but only to a slight extent; the serous membrane also becomes thickened, as a consequence of attacks of peritonitis after incomplete rupture. The existence of a veritable placenta is seldom to be made out, this structure being represented by the villous tufts which sometimes constitute multiple dilatations.

"This tubal cyst rarely reaches its ninth month without rupture, which takes place generally in the second or third month, sometimes in the fourth. Some few cases have been reported in which the rupture occurred at the seventh month. Finally, Otto Spiegelberg observed one case in which the woman died at the ninth month in an attack of eclampsia. There was found after death rupture of a tubal foetal cyst, and considerable abdominal hæmorrhage. This seems to have been the only case in which rupture did not occur until the ninth month. It should be stated, however, that the autopsy made by Waldeyer showed that the cyst occupied the commencement of the right Fallopian tube, and the condition, therefore, approached that of the interstitial form.

"2. *Ovarian Pregnancy*.—The existence of this variety has been disputed, notwithstanding recently-reported cases from Hess of Zurich, and from Ramsbotham and Adams. For my own part, I have collected several undoubted examples from many other sources. These ovarian pregnancies usually terminate in rupture of the cyst before the completion of the term of gestation, still they have been known to reach the ninth month without meeting with any accident.

"3. *Primary Abdominal Pregnancy*.—In a case of this kind the ovum is implanted on the peritoneum, which inflames, and forms a protecting envelope and veritable cyst. There are cases, however, like that of Lecluyse (Guton, Société Anatomique, 1858), in which the cyst was quite wanting; the enveloping membranes of the embryo are then restricted to the amnion and chorion. Schreyer has observed an analogous case. In this variety the placenta is circular or is spread out; it is fixed indifferently on the intestines or on the abdominal wall, and in any region of the peritoneal cavity. The fœtus is then generally placed as in normal pregnancy—the head is inserted into the lower pelvis, and the back is applied to the abdominal wall.

"4. *Interstitial Pregnancy*.—This is relatively the rarest of all the forms of extra-uterine pregnancy. In cases of this kind the fœtus is lodged in that portion of the Fallopian tube which is contained in the thickness of the uterine wall. Carus, Breschet and Dugés have reported examples of this form.

"The classification which we have just reviewed is founded on typical cases, which, indeed, are but rarely met with in a state of purity; the intermediate forms are numerous, and my case was one of this kind. The fimbriated extremity of the left Fallopian tube was confounded with the cyst, and the left tube of the uterus at the commencement of the cyst was four centimetres in width, whilst the right tube was six centimetres. The cyst itself was nine centimetres in its transverse diameter, two of which were covered by the extremity of the tube and the fimbriated

extremity. In its vertical diameter it measured seven and a half centimetres.

“These dislocated pregnancies, if one may so call them, follow each the same course and have the same termination. The tubal and ovarian pregnancies usually terminate in rupture of the cyst at the third or fourth month, and, in most instances both the mother and foetus die. It is not rare, on the other hand, to see an abdominal pregnancy (and also the tubo-abdominal variety), reach its full term. At this period there is a veritable labour characterized by uterine contractions, and by the expulsion of sanguinolent mucosities by the vagina. This labour often ends in rupture of the cyst, and death of the mother through peritonitis. In other cases the false labour fails, and gestation is prolonged, the foetus subsequently dying and finally undergoing modifications which vary in different instances. Sometimes it becomes mummified or cretified, at other times it remains in the abdomen of the mother to undergo other changes, as those of induration or cretaceous conversion. The foetus, when it has undergone the latter changes, has generally remained for a long time in the abdomen. Cases have been recorded in which the fatal body had remained twenty-eight, thirty-three, and fifty years. According to M. Deneux all the extra-uterine pregnancies in which the product of conception has been retained beyond the normal period, ought to be classed as tubal, the extra-uterine pregnancies of the variety called abdominal being, according to this author, always fatal. This opinion, however, I do not think can be accepted. In extra-uterine pregnancies of the tubal variety death of the mother and child is the ordinary consequence of rupture of the foetal cyst at the third or fourth month, whilst the cases of prolonged sojourn which I have just alluded to were of the abdominal variety of extra-uterine pregnancy.

“Instead of thus resting indefinitely, so to speak, enclosed within the body of the mother, the extra-uterine foetus may, after a shorter or longer interval, give rise to special symptoms. For instance, after having been tolerated during a long period by the peritoneum, it may suddenly determine violent inflammation of this membrane with all its consequences. At other times, the foetus after having undergone much change, may be totally or partially evacuated by the same mechanism as is observed in the evacuation of foreign bodies, and of purulent collections. This expulsion may take place at almost any point of the abdomen; the most frequent spot for the discharge of the foetal remains is the umbilicus. The rectum is the next most frequent seat after the umbilicus, and then comes the iliac fossa. In the last instance a true abscess presents itself on the abdominal wall of one iliac region, the skin sloughs, and an orifice is subsequently formed which gives exit to fragments of foetus. The elimination takes place slowly, and may be continued for years, being carried on either uninterruptedly or intermittently with development of acute symptoms before each fresh evacuation. In some cases no severe symptom accompanies the issue of the fragments of foetus. It should be mentioned that in cases where the expulsion of the foetal fragments takes place at the umbilicus, or at other points of the abdominal wall, it is often necessary for art to intervene in

making necessary incisions for giving issue to fragments larger than the diameter of the spontaneous opening. These incisions ought not to be made in the rectum save with the utmost caution.

"The regions of the abdominal wall which I have just indicated, and the rectum, are not the only seats at which the foetal remains may be discharged. These remains may be discharged through the bladder, or concurrently through this and some other organ. Petersen (*Dublin Med. Press*, 1859) reported a case in which the foetal fragments pass both by the rectum and the bladder, the woman succumbing at last to this double discharge. The *débris* are sometimes discharged through the vagina. In a case reported by Skrivan (*Archives de Médecine*, 1852) the extra-uterine pregnancy took place in a hernial sac. A living foetus was removed by operation, but this died soon afterwards; the mother recovered.

"It is well to know that ulterior conceptions are frequent in women who carry in the abdomen these products of extra-uterine gestation. The subjects, however, of this latter condition generally succumb sooner or later in consequence of attacks of peritonitis, or of purulent infection. Without intercurrent pregnancies, peritonitis, exhaustion through prolonged suppuration, and purulent infection are the three affections which usually cause the death of women who bear these degenerated products of extra-uterine conception.

"Many observers of these cases of extra-uterine pregnancy have insisted on the presence of modifications of the uterus itself, which resemble those which the organ undergoes in normal pregnancy. It has been stated that the organ increases in size, and that it presents on its inner surface a membrane similar in appearance to the amnion. These changes no doubt occur in a certain number of cases, but they certainly are not the general rule. In my case there was no abnormal development of the uterus; the mucous membrane was unchanged, and covered by a thin layer of long and very slightly sanguinolent mucus.

"The diagnosis of extra-uterine pregnancy is difficult in the early stages. In some instances there is nothing to suggest an anomaly. The pregnancy seems to evolve regularly; and the practitioner after a time, but too late, is informed of the state of things through the results of rupture of the cyst. Intensity and tenacity of the sympathetic phenomena have been indicated as frequent signs of the early stages of extra-uterine pregnancy. Heine has even described a variety of uterine colic peculiar, in his opinion, to extra-uterine pregnancy. As the uterus at the commencement of this abnormal pregnancy may undergo most of the modifications that are presented in normal pregnancy, there is a fresh cause for difficulty in the diagnosis. When, on the other hand, the general phenomena can be attributed to the existence of a pregnancy which is not accompanied by regular development of the uterus, and especially when this organ remains of small size in relation to the epoch of the occurrence of the first *malaises*, one will have reason for suspecting extra-uterine development of the foetus.

"Palpation may sometimes aid us in forming a diagnosis. Thus it is stated that the neck of the uterus is deviated from the side of the cyst when the pregnancy is tubal, and that it is turned backwards when the

pregnancy is retro-uterine—a very rare form. Again, in extra-uterine pregnancy, the abdominal swelling is not developed exactly in the median line. Sometimes when there have been general disturbances, one may by touch and palpation combined make out distinctly the existence of a tumour independent of the womb. Emptiness of the womb made out by catheterism and the simultaneous observation of certain signs of pregnancy (movements of the fœtus, &c.), alone serves to remove all doubt.

“*Treatment.*—The indications vary singularly according to the period at which pregnancy has arrived.

“If one is able to diagnose extra-uterine pregnancy at an early stage, as experience proves that whatever be the variety of abnormal pregnancy, the fœtus will probably perish at last and cause the death of the mother, the necessity of preventing the development of the fœtus, and even of causing its death, is imperiously indicated. All accoucheurs agree on this point; they would without hesitation sacrifice a fœtus, the useless life of which must cause the death of the mother, but differences of opinion occur as to the determining of the best means for arriving at this result without putting the life of the mother in danger.

“Von Ritgen has proposed to destroy the fœtus by submitting the mother to *cura famis*, a means however which is seldom efficacious, as is proved by the results of the same when applied in cases of contracted pelvis. In the latter case the health of the mother generally deteriorates; she falls into a state of cachectic emaciation, whilst the fœtus continues to thrive, as it does also in women who eat little or vomit frequently during pregnancy. This then is a mode of treatment which is as dangerous as it is inefficacious.

“Oriander proposes the early extirpation of the cyst by the bistoury. Many prefer puncture of the cyst, either as a means of exploration or as a proceeding for causing the death of the fœtus. Martin punctures by the abdomen, Simpson and Braxton Hicks by the vagina. The patients thus treated died of peritonitis. This then is a dangerous proceeding, and ought to be rejected.

“M. Joulin has proposed *capillary* puncture and injection of some poisonous substance, sufficient to kill the fœtus without injuring the mother. This plan has been carried out with success by Friedreich, of Heidelberg, and by Kœberle. Bachetti, an Italian physician, has employed the electric current with success. Braxton Hicks by using the same means (electro-puncture and the galvanic current) caused the death of the fœtus, but likewise that of the mother from peritonitis.

“Finally, compression has been proposed in order to cause abortion. This proceeding consists in applying sand-bags over the abdomen of the mother, and gradually increasing their weight. The chief objection to this method is its liability to cause rupture of the cyst.

“The best method then of causing the death of the fœtus in the early period of extra-uterine pregnancy consists in capillary puncture and the injection of some narcotic (one centigramme of hydrochlorate of morphia).

“Other indications will arise if the practitioner be called in at the time of rupture of the cyst; he will then have to deal with internal hæmorrhage and the imminence of acute generalized peritonitis. In

cases of this kind some, and among these M. Kœberlé, unhesitatingly recommend gastrotomy. This operation should be performed with all the minute precautions that are taken in ovariectomy; the peritoneum must be cleared of the effused blood, and the embryo and its membranes removed.

“An intervention of such gravity as this will be justified by the equal gravity of the situation which one endeavours to relieve; in fact, in cases of rupture of the cyst and of intra-peritoneal hæmorrhage, the issue is almost certain to be fatal.

“Rupture of the cyst takes place most frequently near or during the fourth month. If the pregnancy has passed over this dangerous period, it will then follow an almost normal course, and generally arrive at its term. After the fourth month then there is no longer any indication for attempting the death of the foetus, as this is now so large that there could be no hope of its safe absorption after death. It is necessary then to give it full liberty to develop itself and to wait for its complete maturity, so to speak, before interfering with attempts to save both mother and infant.

“When this period has arrived gastrotomy should be performed without hesitation, and the living infant extracted. This is the precept laid down by modern ovariectomists. This subject is discussed by M. Keller an *élève* of M. Kœberlé, in a recent thesis on extra-uterine pregnancies and their treatment by gastrotomy.

“M. Keller reports nine cases in which gastrotomy had been performed. In these nine cases seven infants were saved and four mothers. Eight cases of extra-uterine pregnancy are next recorded in which gastrotomy was not performed. Of course all the infants succumbed; of the eight mothers only one recovered—the others perished four, ten, and fifteen days after the false labour.

“When the term has passed and the foetus is dead, there is but one object to be attained, the preservation of the mother. The foetus may, as I have stated, become encysted and converted into adipocera or lithopedion, and remain for an indefinite period in the abdomen of the mother; but in most cases repeated attacks of inflammation occur, and abscesses and fistulæ are formed, from which during months and even years foetal débris are discharged. This long process of elimination and suppuration often exhausts the woman and determines a condition of cachexia; in other cases death is caused by an attack of acute peritonitis.

“In these latter cases gastrotomy is also indicated, and here the operation has been performed with very good results; nineteen out of twenty-one operations having been performed with successful results.

“Here statistics are much more favourable than for the performance of gastrotomy in the early stages of extra-uterine pregnancy, but one should not, I think, lay down any absolute doctrine, nor have recourse systematically to the operation after the false labour has terminated. Cases in which the sojourn of the foetus in the abdominal cavity is prolonged without inconvenience to the mother are not rare, and examples of complete recovery after spontaneous expulsion of the foetal débris are not exceptional. For my own part, I would never readily consent to the performance of gastrotomy on account only of the presence of a foetus

in the abdominal cavity of the mother, or of the commencing elimination of parts of the fœtus.

"It should be remembered that gastrotomy is a very serious operation, and may be followed almost immediately by death. Before recommending it, I would rather wait until the course of the symptoms indicate its urgent necessity, and I would not venture to propose it, notwithstanding the presence of the products of abnormal gestation, for a healthy-looking woman who has probably before her ten, fifteen, thirty, or even fifty years of tolerable existence. It may be stated in opposition to this opinion, that the chances of success would be smaller after the manifestation of bad symptoms. This I know, but I still continue to feel that the responsibility of such an operation is heavy in the case of a healthy-looking woman whose future may probably be exempt from all danger.

"I do not feel myself freed from anxiety by the remark, no doubt very true, that the adhesions that are often formed between the cyst and the abdominal wall may permit the surgeon to reach the fœtus without encroaching on the peritoneal cavity. Rousseau and Beauvoisin have proposed to carry out, in opening the cyst, the proceeding carried into practice by Recamier in evacuating hydatid cysts of the liver, and to apply caustics to the abdominal wall before performing gastrotomy. This proceeding is a prudent one, and seems to have succeeded in the hands of its proposers, but still it should not induce you to forget the scruples that I have just expressed."

ART. 232.—*On some Microscopic Lesions produced in the Fœtus by the Forceps.*

By Dr. JACQUET.

(*Lyon Medical*, No. 9, 1873; *Gazette Hebdomadaire*, No. 21, 1873.)

The author describes some lesions which were observed in the spinal cord of a fœtus brought into the world by the application of forceps, which lasted for twenty-five minutes, with a force of traction estimated at forty-five kilogrammes. These lesions are analogous, if not identical, with those described in cases of traumatism of the nerve centres. The observation of these injuries, due to the application of the forceps, constitutes a new fact, for in the most recent works on the application of histology to obstetrics, no mention has been made of this subject. The microscopical lesions found in several organs of the fœtus by the author result, apparently, from exaggeration of the blood tension produced in the head by the forceps.

These consist, 1stly, in small diffused but rare effusions of blood, revealed by the microscope in the thickness of the choroid; 2ndly, in numerous spots of ecchymosis on the inner surface of the spinal arachnoid; 3rdly, in extravasations of blood, varying in size, but never very large in the thickness of the cord itself. In sections made perpendicularly to the axis of this organ, these hæmorrhages present a rounded form and a speckled aspect. These microscopic hæmatomata, which the

author designates by the name of pseudo-miliariæ on account of their resemblance to true miliary aneurisms, occupy almost exclusively the white substance of the cord, and have as their seat of election the end of the dorsal region and the commencement of the lumbar region. According to the author this latter fact should be regarded as a consequence of the antagonism which the cephalo-rachidian fluid establishes between the cerebral and the spinal circulations. The rounded form of these hæmatomata is probably due to the presence of lymphatic sheaths surrounding the large capillaries of the cerebro-spinal axis.

ART. 233.—*On the Determining of the Condition of the Fœtus in Utero.*

By Dr. COHNSTEIN, of Berlin.

(*Archiv für Gynakologie*, iv. 3, 1872; *Schmidt's Jahrbücher*, No. 5, 1873.)

The determining whether the fœtus in utero be living or dead is often, during pregnancy, but much more frequently during parturition, a matter of the greatest importance.

The diagnosis of the living condition of the fœtus is based upon the signs of life—heart sounds and movements of the fœtus. When these can be made out no doubt remains as to the condition of the fœtus, but it may yet be living though these signs cannot be made out. Dr. Cohnstein endeavours to prove that the diagnosis as to the living condition of the fœtus may be made by means of the thermometer. It is well known that the temperature of the fœtus in utero is higher than that of the mother, and the temperature of the gravid uterus higher than that of the vagina. Since this higher temperature of the uterus is due to the heat produced by the fœtus, this must diminish when the fœtus dies, in consequence of the failure in the supply of heat previously afforded by the fœtus, and the abstraction of heat from the uterus by the dead mass. A proof of the correctness of this view is afforded by a case reported by Schröder, in which the uterine temperature of a parturient woman, whose child had died seventeen hours previously, was not more than one-fiftieth of a degree higher than that of the axilla; when the fœtus is living the difference during birth is about one-third of a degree, and during pregnancy about one-fourth, and never less than one-tenth of a degree.

By comparing the temperature of the uterus with that of the vagina or axilla, a conclusion may therefore be drawn as to the condition of the fœtus. But with this investigation by means of the thermometer the death of the fœtus can be determined only in those instances in which the temperature of the uterus equals or is lower than that of the vagina. If the temperature of the uterus be found higher than that of the vagina, the diagnosis cannot at once be determined, since the fall of temperature in the fœtus after its death may come on gradually in consequence of the slight difference between its temperature and that of the surrounding medium; and since, moreover, there may be a post-mortem rise of temperature. Only when two or three hours after the determining of a high uterine temperature, a fall of the same has been observed, can one conclude as to the subsequent death of the fœtus.

If, however, the temperature of the uterus be above that of other internal organs, in consequence of the heat given off by the living foetus, the observation of such an excess by means of the thermometer will be very important, in the absence of other signs, in making out a pregnancy, especially during the first three months of this condition. That the careful introduction of a thermometer into the cavity of the pregnant womb, between the wall of the same and the membranes of the ovum, is a harmless proceeding has been proved by experience.

If temperature observations can be carried out during parturition, the thermometer may be introduced far enough if the head be turned forwards. If the os uteri be stretched and the head forced down in the pelvic cavity, the temperature may be taken in the vagina. Observations can be made still more readily in oblique, breach, and face presentations.

ART. 234.—*On Vesicular Moles.*

By D. AUGUST FRICKER, of Heilbronn.

(*Memorabilien*, xviii, 1873; *Schmidt's Jahrbücher*, No. 7, 1873.)

According to Fricker, molar pregnancies, although they do not occur very often, are more frequently met with than is generally supposed. The vesicular is the most common of all moles, and perfect forms of this degeneration are rarely met with, yet, on examination of abortive ova, vesicular degeneration of the chorionic tufts will very often be found, and in the membranes of fetuses born at the full time a few stalked vesicles may occasionally be seen. According to G. Brauer moles have a great influence both on the mother and child; on the former as they give rise to hæmorrhages during pregnancy, and induce miscarriages; on the latter, as this, through mechanical and dynamical impairment, fails to attain but a rudimentary, if any, development. Fricker has had opportunities of observing four cases of vesicular moles, two of which were of especial interest, and in one of which death resulted from internal hæmorrhage. Two of these cases and another observed by Gfrörer, which also ended fatally, are reported at full length, and to these cases are appended abstracts of forty-seven others collected by various obstetrical works.

The ages of the women were given in 44 of these cases: 2 were under 20 years, 18 were between 20 and 30 years, 15 between 30 and 40 years, and 9 above 45 years. Ten of these subjects were primiparæ. The molar pregnancy had been preceded in three instances by abortion, in four instances by instrumental delivery, once by detachment of the placenta and once by intense anæmia. The co-existence of some morbid condition with the molar pregnancy is frequently reported, especially general constitutional disturbance, vomiting, a tendency to fainting, great debility, abdominal and lumbar pains, hysterical attacks, leucorrhœa, discharges of serous and purulent fluids, excessive anæmia, œdema of the feet; loss of blood at different periods of the pregnancy is specially noted in 41 cases. Concussion of the body through falls and blows and physical changes are found noted as causes of the hæmor-

rhages. In nine cases nothing is stated as to the size of the uterus during the period of pregnancy; in eight cases it was too large and once it was too small. On internal examination, there was found in 14 cases at the os uteri a body similar to the placenta, usually felt for the first time after the commencement of the pains; in 7 cases the diagnosis was made sure by the discharge of a portion of mole; in 5 cases the placenta presented; in 4 women there had been repeated molar pregnancies. The weight of the mole in the majority of cases varied between $1\frac{1}{2}$ and 6 pounds; in one case was observed an hydatid mole which weighed 11 pounds. In 23 cases the uterine contractions alone sufficed for the discharge of the mole (in 4 of these ergot had been administered); in 3 cases plugging alone sufficed; in one case the membranes were ruptured; in 2 cases a catheter was introduced, and in one compressed sponge was used; manual assistance was rendered to 18 women, making 25 cases in which operative proceedings were carried out. Transfusion was performed on two women, but only on one with a good result. In eight cases the women suffered after the removal of the mole from one of the following affections:—metro-peritonitis, phlebitis, metritis, ovaritis, dropsy, mucous polypus, and consecutive hæmorrhage. Eight cases ended fatally, five through hæmorrhage, one through phlebitis, and two through metritis.

Before the discharge of any hydatid vesicles or of a larger portion of the mole the diagnosis always remains doubtful; with the simultaneous presence of a living fœtus the diagnosis cannot be made with certainty until a portion of the mole has come to view. The phenomena which may lead to the suspicion of an hydatid mole are: (1) vomiting, a tendency to fainting, &c., which with vesicular moles are frequently more severe than with normal pregnancy; (2) a failure of correspondence between the duration of the pregnancy and the development of the uterus; (3) absence of the fœtal heart sounds, the fœtal mass, the movements of the child, and the placental bruit; (4) hæmorrhages and their consequences; (5) occasional discharge of portions of the mole; (6) presentation at the os uteri of a body similar to a placenta. The hæmorrhages in cases of vesicular mole generally come on early, sometimes in the early months of pregnancy; they vary much in quantity and duration, and are frequently accompanied by a discharge of viscid, ichorous, and fetid fluid. On digital examination during one of these hæmorrhages the vaginal portion of the uterus will be felt less relaxed and less prominent than it usually is in cases of placenta prævia. In cases where vesicular mole is suspected the accoucheur should examine, after each hæmorrhage, the discharged blood for hydatid vesicles, and should also search in the vagina for detached portions of degenerated ovum. A protruding portion of vesicular mole and a presenting mole may, according to Krause, be thus distinguished by the finger: when the exploring finger glides along without difficulty the inner margin of the uterine cavity, and between this and the presenting mass, one may conclude with certainty that it is not the placenta that presents.

The prognosis is not so favourable as is generally supposed, for besides the five deaths from hæmorrhage and the three deaths from more remote accidents in fifty-three cases, operative assistance was demanded in twenty-five of these cases, and many of the women suffered for a long time from anæmia and hydræmia, and also from extreme debility.

In the treatment one has, besides directing his attention to the associated phenomena and the general condition of the patient, to control the severity and frequency of hæmorrhages. So long as the diagnosis is doubtful and the bleeding is not considerable, one has but to support the strength of the patient and to prevent more troublesome symptoms; severe hæmorrhage necessitates rest, acid drinks, cold applications to the abdomen, small quantities of opium, &c. When the existence of a vesicular mole has been placed beyond doubt its removal should be attempted as speedily as possible. When during threatening hæmorrhage a portion of the mole can be felt lying in the os uteri it should be removed with the fingers or dressing forceps; the bleeding will then generally cease in the course of a few days. When the os uteri is not sufficiently dilated a sponge-tent should be inserted. In some cases a few doses of ergot suffice to bring about removal of the mole. Excessive hæmorrhage necessitates plugging, which is best done by using an elastic bag filled with iced water. On failure of the above mentioned means it becomes necessary to resort to manual removal of the mole, even when no contractions of the uterus are present, an endeavour being made to remove the whole mass at once, and not piecemeal, even when there are no uterine contractions. Removal of the mole by instruments is to be avoided, as by this method the mass may be readily lacerated. In desperate cases where the hæmorrhage cannot be arrested by plugging, and where unsuccessful attempts have been made at manual removal of the mole, astringent fluids should be injected into the uterus, and the uterine cavity be plugged with wadding or a portion of sponge previously dipped in some astringent solution. After-treatment is frequently required on account of persisting anæmia and hydrophy.

ART. 235.—*On the Spontaneous Separation of the Placenta when it is Prævia.**

By J. MATTHEWS DUNCAN, M.D.

(*The Lancet*, Oct. 18.)

The author did not in this paper enter on the subject of hæmorrhage, desiring to keep in view only the mechanism of separation of the placenta when prævia. He pointed out that during labour every portion of surface of the body of the uterus underwent contraction, and that it was probably to the same extent over the whole of it. But the lower part of the body of the uterus was greatly expanded during labour, and contraction could there be only in the meridional or longitudinal direction. The contraction of the uterus in early labour did not separate the placenta, wherever it might be inserted, whether prævia or not. A small amount of the whole expansion of the cervix, or an early stage of it, when there could be very little contraction, was sufficient to detach partially the placenta. He arrived at the conclusion that the placenta when prævia was separated by expansion, not by shrinking or

* Read at a Meeting of the Obstetrical Society of London, October 1st.

contraction of the uterus. At present it was universally held to be separated by uterine contraction. The paramount errors of authors, such as Simpson and Barnes, were in supposing that the placenta might be attached to the cervix even near the external os, which it never was, and in not rightly apprehending the behaviour of the cervix during labour. The process of detachment by expansion will go on till the internal os is dilated to a diameter of about four inches, and this may occupy a great part of the whole duration of the labour. Study of the shape of the lower uterine hemispheroid showed that a meridian leaves the vortex or centre of the internal os uteri in a direction nearly at right angles to the uterine axis; and that, after it has described an arc of one and a half or two inches, it becomes nearly parallel to it. At about two inches and a half from the vertex the diameter of the uterine cavity is four inches. There is no need for any considerable expansion beyond a diameter of four inches, which is reached at a meridional distance of two and a half inches from the centre of the internal os uteri. Expansion beyond this would produce very slight extension of uterine surface, and consequently slight detaching power, which would probably be counterbalanced by placental expansibility. Dr. Matthews Duncan pointed out that this was the measure of the spontaneously detaching area, and criticised the various other measurements that authors had made. He showed that Barnes's estimate of three to four inches from the os uteri must be far too great. The circle of latitude, two inches and a half from the vertex, marking this limit was the line insertion of the placenta within which constituted placenta prævia. Complete detachment of the placenta was to be explained by a study of the production of a caul, and of those cases in which the placenta was perforated by the advancing fœtus. Finally, Dr. Duncan called attention to the analogous detachment of the decidua around the internal os, which had been described by Dr. Haussmann, of Berlin.

ART. 236.—*Note on the Muscular Subsurrus in Relation to the Fœtal Heart-Sounds.**

By J. BRAXTON HICKS, M.D., F.R.S.

(*The Lancet*, October 18.)

The author wished to call the attention of the Society to a point with regard to the diagnosis of pregnancy and the life of the fœtus, by means of the existence of the fœtal heart-sounds, which he had not unfrequently observed in the course of his practice, but which he did not remember to have seen in print, and summed up his observations as follows:—1st. That the number of vibrations of the abdominal muscles in a state of half suspension can be distinctly counted, watch in hand. 2nd. That their number and sound are so like those of a very rapid fœtal heart that they may be mistaken for them.

* Read before the Obstetrical Society of London, October 1st.

ART. 237.—*The Diagnosis of Subacute Ovaritis.**

By E. J. TILT, M.D.

(The Lancet, October 18.)

The author suggested that the undervaluing of the part played by subacute ovaritis, as a source of disease in women, partly depended on the lamentable facility with which many practitioners, whenever there was pain in the ovarian region, inferred the existence of ovaritis, partly on account of the real difficulties of diagnosis, of which he gave some remarkable instances. He intimated that another reason might, however, be found in the difficulty of making examinations in young unmarried women. He had found that the most frequent sexual diseases during this period of life (between fifteen and twenty-five) were subacute ovaritis and inflammation of the neck of the womb. When the disorders of menstruation resisted good hygienic and medical treatment, he believed they were generally due to subacute ovaritis and cervicitis. The symptoms of cervicitis he described to be the habitual painless passing of a moderate amount of muco-purulent vaginal discharge, with habitual pain in the back; those of subacute ovaritis were constant dull pain deep in the ovarian region, much increased by firm pressure, and extending to the thigh and leg, mammary symptoms, disturbed menstruation, and hysterical phenomena. The positive sign of subacute ovaritis was the finding of an ovoid, smooth, or slightly indented lump beside the womb, or in Douglas's pouch, pressure upon which caused by the practitioner's finger, or during coitus, caused an overpowering and sickening sensation of pain and debility. It might be necessary to confirm this diagnosis by a rectal or recto-vaginal examination. The author expressly stated that it would sometimes occur to a practitioner making a first vaginal examination that, instead of finding any ovarian disease, as he expected, he would detect cervical disease, and in other cases subacute ovaritis would be found when the symptoms would lead him to expect cervical inflammation. He concluded by describing the line of conduct to be adopted by the surgeon for the management of each of the three classes, and sketched the treatment most likely to cure them.

ART. 238.—*On the Oxytotoxic Properties of Quinia.*

By S. HIRAM PLUMB, M.D., of Red Creek, N.Y.

(American Journal of the Medical Sciences, July.)

For more than twenty-five years Dr. Plumb has practised medicine in a malarious district, and has very often administered quinia to women in pregnancy without any ill results; in fact, he more fears that a continuance of chills and fever would provoke abortion or premature labour, than that the quinia required to arrest the chills would do so. For more than fifteen years he has also given quinia as an oxytotoxic, commencing to use it in cases of labour in patients enfeebled by malarial

* Read at a Meeting of the Obstetrical Society of London, October 1st.

disease; and, finding that it not only sustained the patient, but seemed to promote delivery, continued the practice until fully convinced that it did promote delivery, and then gave it for that purpose alone in cases of lingering labour, in patients not depressed by malaria. One such case he recites:—

“February, 26th, 1869, I was called four miles from town to attend a lady in her third confinement, and who had been similarly my patient in her former labours, the first of which was severe and the second easy. A few minutes after my arrival at the house, under a slight pain she had a copious gush of blood; making an immediate examination, I found myself confronted by ‘placenta prævia.’ Having nothing more reliable at hand, I administered at once about three grains of quinia, and sent a messenger to my office for ergot and my instruments. The womb responded promptly to the quinia and manipulation; there was but little more hæmorrhage, and before the return of the messenger the labour was so far advanced, and the contraction so firm, that she was promptly and safely delivered without the use of ergot or instruments. The child was so exsanguinated that it gave only a few feeble gasps, and all efforts to resuscitate it were unavailing; the mother’s recovery was good.”

Dr. Plumb thinks, under quinia the labour pains preserve their natural intermittent character, and do not become a constant pressure, as under the influence of ergot.

ART. 239.—*A Safe Method of Inducing Premature Labour.**

By BEVERLEY R. MORRIS, M.D., Nottingham.

(*British Medical Journal*, September 6.)

The process that Dr. Morris describes is by galvanism, as far as he is aware by an entirely different application of the principle from any before attempted. The principle involved was introduced by Mr. Dancer, of Manchester, many years ago, for the purpose of arresting post partum hæmorrhage, and this it undoubtedly effected satisfactorily; but the apparatus was so cumbersome, that few practitioners could carry it about with them, and, probably from this cause, it was never generally used. The instrument invented by Mr. Dancer was so arranged that one pole of the galvanic current could be introduced into the uterus, while the other was applied over the abdomen; it was so constructed that either a continuous or an interrupted current could be applied. The instant effect was a powerful contraction of the uterus, and a consequent cessation of hæmorrhage.

The application of this principle to the induction of premature labour was made by Mr. John Varley, surgeon, of Nottingham. The mode of using this instrument, modified by Mr. Varley, is to insert the metallic point within the os uteri and then, placing the other pole to the abdomen, pass a slight continuous current through the uterus for ten minutes or a quarter of an hour. This induces a dilatation of the os,

* Presented to the Obstetric Medicine Section at the Annual Meeting of the British Medical Association in London, August, 1873.

which is further increased by substituting a larger conical point, and again continuing a gentle current for a few minutes. In each case in which this method had been used so far, labour has followed in two or three days; but, should this not be the case, it will only be requisite to apply the current daily until it does. The safest way is to expose the os uteri by a speculum, and then insert the point of the instrument through the speculum, which may then be withdrawn over the instrument. The great portability of the instrument and battery will allow it to be readily carried in the pocket, and it is always ready for use at a moment's notice; and the induced current seems to me amply sufficient for the purpose. The arrangement for giving a continuous or broken current is very simple, and entirely and instantly within the operator's power.

The instrument consists of a metallic sound, covered, except at the point, with a non-conducting material, and having a metallic connexion at the handle, and so arranged as to be either broken or continuous by a touch of the finger. This intermediate part is connected with one pole of the battery; while the other pole is attached to a metallic tube or conductor for external application, either direct or through the hand of the operator. It is manifest that there are other cases in which it may be most usefully employed, as, for instance, in sluggish or atonic labour, and other similar states.

ART. 240.—*Chlorate of Potassa in Bowel Complaints.*

By ALFRED S. GATES, M.D.

(*American Journal of the Medical Sciences*, July.)

Dr. Gates in this communication, extols the efficacy of chlorate of potassa in diarrhœa, especially that occurring as a sequela of measles. He writes: "My own child, aged eighteen months, after an attack of measles, suffered from dysentery; passages occurring every hour or two, which persisted for a month without any relief from the accepted remedies. In my extremity I mentioned the case to a medical friend, who advised me to use the chlorate of potassa in gr. iv doses every two hours; accordingly I prescribed: *R. Potass. chlor. gr. xxxij, syr. simp. ʒss, aq. pur. ʒss*, and gave as directed. After the third dose the character of the discharges was completely changed, the blood and mucus disappeared, and the child made a rapid recovery.

"Measles being epidemic, I saw several cases with identical symptoms following desquamation. In every case the sufferers were relieved by the remedy. Meeting with success, I determined to give it a fair trial in cases which West, in his "*Diseases of Children*," calls inflammatory diarrhœa. It fully and completely realized my expectations. I have also used it in the dysentery of adults, though with no such decided success as in the above-mentioned cases; though I have reason to suppose that in two cases, in which my faith was shaken, the directions were not followed with any attempt at regularity."

ART. 241.—*Quinia as a Parturient.*

By WILLIAM L. LINCOLN, M.D.

(American Journal of the Medical Sciences, July.)

Dr. Lincoln, in his report on Obstetrics, made to the Minnesota State Medical Society, states that he confidently believes that quinia is a valuable agent when dilatation has taken place, and the pains are not strong; we are sure that we have observed labour materially shortened by the administration of five grains of quiniæ sulph. And again, when the pains are irregular in regard to duration and interval, we have observed, in half an hour after the exhibition of the dose of quinia, regular pains as to strength and interval. One or two marked cases have come under our own observation, which bear upon the subject matter under consideration.

On the tenth day of June last we saw a lady who supposed herself to be in the fifth month of pregnancy, who had been flowing more or less all the time for three weeks, and had been taking remedies to prevent miscarriage, but who for the preceding twenty-four hours had been having occasional labour pains. An examination revealed a dilating os, but the pains were very irregular, sometimes occurring every four minutes for three or four pains and then there would be an interval of twelve minutes or more.

After watching the progress of labour for an hour, she got six grains of quinia; in about half an hour we had the extreme satisfaction of observing that the pains were regular and strong until labour was completed, which occupied about an hour and a quarter. The doctrine has been advanced that if it is so certain a parturient, it would be unsafe to administer quinia to pregnant women as a remedy in malarial fevers, for at any time the uterus might be stimulated to take on expulsive contractions. So far as we have noticed, no writer on the subject of malarial fever, gives a word of caution on the subject in days gone by, and we suppose that pregnant women have swallowed their portion of the potent drug in question; and if such are the facts, the question arises, why did not the whole malarial region of our land become depopulated in a generation, from miscarriage?

In the month of September two cases presented themselves for a test in this matter, and although the number is too small to be of much moment, yet they seemed to be fair cases for trial. Mrs. W. was the subject of quotidian fever, and desired to have it broken up at once, as she expected to be in labour "any day." She said she was a hard subject to cure of ague, having succeeded in shaking every day for five weeks at one time in Illinois some four years previous. She took thirty grains of quiniæ sulp. in the twelve hours preceding the time for the next chill, and had no subsequent chill or fever. Her confinement was thirteen days later.

A few days subsequent, Mrs. B., reckoning that she was within two weeks at furthest of confinement, being ill of a tertian ague, took twenty grains of quinia in the twelve hours preceding her anticipated chill, breaking the fever just three weeks previous to her accouchement.

We offer these cases not to support a theory, but as simple facts to show that in those cases it proved safe to prescribe quinia in potent doses to pregnant women.

ART. 242.—*Quicksilver given to Procure Abortion, followed by Mercurial Tremors.*

By Sir G. DUNCAN GIBB.

(*The Lancet*, March 8.)

Sir Duncan Gibb reports the case of a young woman, upon whom, when about three months pregnant, an attempt had been made by her seducer to produce abortion by the administration of two teaspoonfuls and a half of quicksilver. No effect was produced upon the uterus, but in the course of a few days she commenced to shake on the right side of her body, her gait became unsteady, and she stumbled frequently in walking. When seen by Sir Duncan Gibb, she was six months pregnant. The above symptoms were still present, and she could not grasp firmly with the right hand. In a fortnight the shaking had extended to the other side of the body, and the left hand grasped feebly like the right. In the course of the next two months all the symptoms gradually became less, and were scarcely noticeable when she was confined.

There was not any salivation throughout, nor was there any blue mark on the gums as in lead-poisoning; they appeared natural. She must have swallowed four ounces and a half of quicksilver.

The above case was remarkable in that the muscles of one side of the body only were first affected by the tremors, instead of the upper extremities, and then they extended to the opposite side of the body.

ART. 243.—*Utero-Placental Vacuum.*

By H. G. LANDIS, M.D., Niles, Ohio.

(*The Western Lancet*, May.)

Whoever has seen a boy's leather "sucker" will readily notice on reflection that it is of very similar mechanical construction to the placenta.

On February 9th, Dr. Landis was called to Mrs. M. one hour and a quarter after childbirth. Her labour had been short, but the midwife in attendance could not deliver the after-birth, although she had spared no effort. Dr. Landis found the placenta partially protruding from the womb by a hard conical eminence a little to one side of the attachment of the cord. Seizing the cord, he made as much traction as it would bear, aiding this by external pressure on the uterus, squeezing the womb, &c., all of which had no effect. The idea of a vacuum then coming to his succour, he perforated the placenta; and on withdrawing the hand from the vagina, it was at once and rapidly expelled as far as the perineum without any traction at all. No clots followed, and the placenta was of medium size.

Cazeaux mentions almost every possible cause of detention, but not this. Dr. Landis is inclined to think that some of the cases generally ascribed to the apparent great bulk of the placenta, due to the formation of clots, are rather of this nature. In the case just mentioned, the predisposing cause appears to have been a capacious vagina, which readily admitted the external air. The immediate cause was traction at an improper time, not before the placenta was detached, for it evidently had been, but before its edge could be felt at the os uteri, after which this or indeed any other difficulties in delivering the after-birth are unlikely to occur.

ART. 244.—*On the Comparative Advantages of Forceps, of Turning, and of Premature Labour in Contracted Pelvis.**

By ANGUS MACDONALD, M.D., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and Diseases of Women.

(*Edinburgh Medical Journal*, September.)

Dr. Macdonald concludes an able paper on the above subject by stating that, so far as his own views of practice lead him, they are as follows :—

“1. That, looking at the statistics of Spiegelberg and Litzmann, it seems exceedingly doubtful if the operation of inducing premature labour ought ever to be employed in cases of contracted pelvis.

“2. That turning does not present any proved advantage to the mother over long forceps in cases of contracted flat pelvis (so far, at least, as my experience and my reading enable me to form an opinion), and is undoubtedly more dangerous to the child. That it is entirely unsuitable when the contraction is general, being much more dangerous to the mother than long forceps, or any of the higher operations.

“3. That in contracted pelvis, as a general rule, it is on the whole safer to let the case go on to the full term of utero-gestation, and then give the patient a fair trial, so as to ascertain what nature is likely to accomplish unaided, without waiting so long as to allow the mother to run unnecessary risk. Then, in case there is room for the introduction of forceps, they ought to be applied and delivery attempted by their means. If this is impossible, then delivery ought to be effected by cephalotripsy, craniotomy, or cæsarean section.”

ART. 245.—*The Anticipation of Post-Partum Hæmorrhage.*

By EWING WHITTLE, M.D., Liverpool.

(*British Medical Journal*, August 30.)

The author long ago observed that post-partum hæmorrhage was preceded by sharp and strong pains of short duration, with the intervals

* Read before the Obstetrical Society of Edinburgh, June 25th, 1873.

between the pains relatively very long. To prevent hæmorrhage from taking place, the character of the pains must be altered, so as to make them longer and the intervals shorter. This was accomplished by giving a full dose of ergot as soon as the os uteri was fully dilated, if the soft parts were sufficiently lax and dilatable. Dr. Whittle generally gave the equivalent of two drachms of the liquid extract of the Pharmacopœia. If this did not act on the pains, he repeated it in an hour, but this he seldom found necessary. Great care was necessary in primiparæ, as the ergot sometimes acted with great energy; as a rule, it was better not to administer it in these cases until the head began to rest on the perinæum, and the soft parts were well dilated; the dose also should be small, not more than thirty-five or forty minims, which could be repeated if necessary. The probable *rationale* of the phenomena was this. The uterus was contracting sharply, then relaxing suddenly and fully; the same habit continued after delivery, and the short-lived contraction was followed by complete relaxation and copious gushes of blood; but if the character of the pains became altered before delivery was completed, then the uterus maintained a firm contraction, and the patient was quite safe.

Dr. Desmond (Liverpool) maintained that no woman ought to be allowed to die of post-partum hæmorrhage. Compression of the uterus during, and for some time after, expulsion of the child and placenta, was the main point to be observed.

Dr. Kidd believed that the timely application of the forceps was one of the best preventives of post-partum hæmorrhage.

Dr. Tracy (Melbourne) was satisfied that chloroform was a frequent cause of flooding.

Dr. Playfair said that the best preventive against flooding was the proper management of the third stage of labour. He attached the utmost importance to the mode of removing the placenta—*i.e.*, to cause the uterus to expel it by its own efforts, and on no account to draw upon the cord.

Dr. Wallace (Liverpool) believed that frequently flooding was the result of too much haste in removing the after-birth, and inculcated the advantage of waiting a sufficient time without any interference whatever.

ART. 246.—*On Retained Placenta, with a New Instrument.*

By ADOLPH RASCH, M.D.

(*British Medical Journal*, August 30.)

The author insisted on the necessity of making a thorough vaginal examination in cases where hæmorrhage or pains, or both, continue after alleged abortion. Retroflexion might be present after abortion, which ought to be rectified, and, if necessary, a pessary applied. But very often the abortus was not over, the fœtus being still retained in spite of the contrary assertion. By cold irrigation properly applied in some seemingly desperate cases (from *partial* detachment of ovum), the fœtus might sometimes still be saved. but where we saw no chance, and

where ergot and cold did not stop the hæmorrhage, or the tampon did not bring away the contents of the uterus, extraction was indicated. In most cases, it could be done by the fingers in the vagina and outward fixation of the uterus. But still cases occurred where the retained placenta could be touched but not brought down, and where prolonged and dangerous hæmorrhage made the speedy removal imperative. The instruments contrived for that purpose seemed to the author all to have the fault in common, that the operator did not feel what he had hold of. The author's instrument was a sensitive forceps, one half of which consisted of the index finger, the other half of a scoop, with a finely-toothed bowl, just large enough for the tip of the index-finger, on which it was introduced through the os. The instrument was then pushed up on the outer side of the placenta—the index guiding, and at last pressing, the latter into the bowl. Three fingers of the same hand performed, by pressing the stem into the hollow of the hand, what was necessary to transform this single blade or this half forceps into a complete one. Thus all danger of injuring the uterus was obviated, and a firm purchase of the placenta or membranes effected. After five years' trial Dr. Rasch warmly recommended his simple and cheap instrument.

ART. 247.—*On the Management of Labour in the Common Forms of Contracted Pelvis, with Remarks regarding Diagnosis.*

By OTTO SPIEGELBERG, M.D., Breslau.

(*British Medical Journal*, August 30.)

The forms of contracted pelvis most commonly met with in practice were described by Dr. Spiegelberg as being: 1. The amply flat pelvis (contracted only in the conjugate diameter); 2. The generally and uniformly contracted pelvis (pelvis æquabiliter justo minor); 3. The generally contracted flat pelvis (a combination of forms 1 and 2). The means of diagnosis of these forms were pointed out, and the mechanism of labour in the various conditions, and the plans of treatment to be followed, were described.

ART. 248.—*On a Digital Impression produced by the Accoucheur in the Cranium of a Fætus during Birth—its History and Results.*

By J. MATTHEWS DUNCAN, M.D., Edinburgh.

(*British Medical Journal*, August 30.)

The case was one in which Dr. Duncan, while producing artificial rotation of the head in a case of narrow pelvic outlet, made with his finger an impression in the parietal bone to the depth of about half the thickness of the finger. The result was slight, short, but very frequently repeated epileptiform seizures, which lasted for some time

after the digital impression had disappeared, and which at first were gradually modified, and afterwards became replaced by slightly awkward movements, somewhat choreic in appearance.

Dr. Steele (Liverpool) suggested that rotation of the foetal head at the outlet might be effected by the forceps more readily and with less risk of injury than by continued pressure on one point of the cranium by the finger.

Mr. Bassett (Birmingham) said that severe injuries to the child had sometimes occurred during hard labour; as a rule, they were rapidly recovered from, although occasionally permanent mischief ensued. He had seen paralysis of the right side from this cause, but had never known mental disturbance to follow such accidents.

Dr. Ringland (Dublin) considered the case related quite exceptional. The restorative power after injuries to the foetal head during labour was considerable. He had seen many cases of injury produced before labour set in from falls or blows sustained by the mother. In two cases the pregnant women had falls some time before labour. The child in each instance was born with a fracture of the occipital bone—both recovered. These injuries are uncertain in their result; they may, or may not, do harm to the child.

Dr. Atthill (Dublin) doubted whether mental disease or paralysis in these cases was really the result of the injury. He thought the forceps not unfrequently caused mischief, and that they were used too frequently in the present day.

Dr. Thompson (Edinburgh) felt satisfied that the beginning of mental disease had been frequently traced to injuries at birth. He knew one case where the head was so injured by the forceps that it was now, at the age of eight years, a helpless idiot. He considered it important in forceps delivery to avoid sustained pressure on one point of the foetal head.

Dr. Denham (Dublin) said that, granting there was a certain risk of injury to the child, it was better to incur that risk than to jeopardise the life of both mother and child, by delay. The older he grew, the more value he attached to the forceps as an obstetric instrument—with ordinary skill and caution, it was as safe as the catheter.

Dr. Kidd (Dublin) strongly advocated the use of the forceps; he doubted the connexion between hard labour and convulsions. The head is often much deformed after natural labour, without causing any mischief. He had known both sloughing of the scalp and paralysis to occur after unassisted labour. These cases almost invariably recovered rapidly.

Dr. Fitzpatrick (Liverpool) spoke in favour of the use of the forceps.

ART. 249.—*Tedious Labour from Debility, and its Treatment.*

By HUGH MILLER, M.D., Glasgow.

(*British Medical Journal*, August 30.)

The remarks in this paper had reference solely to cases in which delay was due to enfeeblement or failure of the natural powers of the

organs specially called into action during parturition. The writer held that the element of time should not be considered in the classification of labours, that it was unscientific to do so, and that uncomplicated labours should only be assumed to be unnatural when the pains were no longer active, and the labour non-progressive. After considering the powers of expulsion in a healthy woman, the author referred to the forces at work which prevented a high standard of health from being maintained in city life, and said that, in proportion as it was wanting, labour was prolonged in many cases. Labour in cities was thus frequently tedious from constitutional debility, so that, even while it might be regular and its progress certain for a time, the pains either lingered or became arrested through exhaustion taking place before the labour was completed. When symptoms of acute fatigue set in, the pains were short and sharp, and they recurred more frequently. The general indications for treatment were to support the strength before labour set in, and during the first stage, and, as soon as the pains indicated debility, to deliver with the forceps. The timely application of the forceps was preferred to ergot, because it seemed more reasonable to assist a weakened organ by giving help from without, than by applying a stimulant to an already overworked one. This practice, instead of inducing flooding, helped to prevent it, through preserving the power of the uterus from becoming exhausted; it also prevented inflammatory diseases of the passages, and the death of the foetus. In his private practice, he found one case in every twenty-six labours show symptoms of debility; and, since he had adopted the early application of the forceps, not one of the children so delivered was still-born.

ART. 250.—*On Some Improvements in the Construction of the Long and Short Forceps, and their Use in Midwifery Practice.*

By T. MORE MADDEN, M.D., Dublin.

(*British Medical Journal*, August 30.)

The author observed that obstetric medicine, having for its ends the lessening of the dangers and the abridgement of the sufferings of childbirth, had of late years been much advanced in both respects by the more frequent and timely use of the forceps. To the numerous attempts to improve its construction, he had ventured to add some modifications in the long and the short forceps. As an examiner in midwifery, he had had occasion to learn that, notwithstanding all that had been recently written in favour of the forceps, its application was still regarded with prejudice by many; and that, in some of the text-books most in vogue with students, its employment was restricted by rules originally laid down by writers whose experience of this instrument was limited. Dr. Madden cited the statistical reports of the Dublin Lying-in Hospital from the earliest period, to prove the almost complete desuetude into which the forceps fell for a long time, as well as the saving of human life and of human suffering which had resulted from its reintroduction into modern obstetric practice. He also laid before the Section seven

tables containing the particulars of his own forceps-cases from May 1st, 1868, to July 6th, 1873. These cases amounted to 148, of which 88 occurred in the hospital, and 60 in private and consultation practice. The patients' ages varied from 17 to 48, the most frequent ages being 28 and 31. The duration of labour varied from under four hours to eighty-four hours. In 79 instances, the cause of interference was inertia; in 27, disproportion; in 11, malposition; in 4, hæmorrhage; in 4, convulsions; in 1, rupture of the uterus; in 7, rigidity. The instruments used were Dr. More Madden's short forceps in 72 cases, the hospital short forceps in 36, the hospital long forceps in 23, and Dr. More Madden's long double curved forceps in 14 cases. The instruments employed by Dr. Madden differed in several respects from any other forceps. He regarded the long and short midwifery forceps as perfectly distinct instruments in their construction, and in the purpose for which they were intended. Dr. More Madden's short straight forceps weighed only eight ounces, and was a very powerful tractor. This instrument was intended only for cases of delay in the second stage of labour, and might be used with wonderful facility as well as power. The long double curved forceps was intended for a very different class of cases—viz., those in which a degree of difficulty existed (before the head of the child had passed through the brim of the pelvis) that could not be overcome by the use of the ordinary long forceps, and in which craniotomy or cephalotripsy might therefore have been resorted to. Dr. More Madden's long forceps was described as a double curved instrument of great weight and length, possessing great powers of leverage and compression. At the extremity of the movable handles a screw was affixed, by which the amount of pressure exercised on the child's head might be exactly regulated. The curves of the blades were peculiar, and were so arranged that the compressive force exerted on any one point of the head, as well as the danger of slipping, were reduced to the minimum. The cases in which these instruments should be employed, as well as the manner of applying them, were then fully described by the writer.

Mr. Bassett (Birmingham) protested against the too frequent use of the forceps, and thought that once in six cases was too often to employ it. He considered all short forceps defective and inefficient.

Dr. Graily Hewitt (London) expressed his astonishment at hearing the use of the forceps forbidden or restricted. Whenever there was no progress for two hours with regular pains, the forceps should be used.

Dr. Steele (Liverpool) failed to discover any improvement in the instruments now shown over the forceps originally devised by Mr. Roberton, of Manchester, and improved upon by the late Sir James Simpson, and now perhaps more generally used than any other form. The essential points in the forceps, he maintained, were strength and sufficient length of handle, the pelvic or second curve, and parallel shanks in front of the handles. The forceps constructed on this principle was adapted for every position of the head, thus obviating the necessity for more than one pair for all cases. He had written some years ago in favour of a more frequent use of forceps than was recommended in most text-books, and subsequent experience had confirmed this view, which had been anticipated and endorsed by our most eminent obstetri-

cians. Statistics had abundantly shown that the maternal and foetal death-rates were diminished in a direct ratio to the frequency with which the forceps were used.

Dr. Kidd (Dublin) said that the Dublin obstetricians, with but few exceptions, preferred the straight forceps, and recommended their prompt use in retarded labour.

Dr. Wiltshire (London) objected to long forceps in ordinary cases.

Dr. Atthill (Dublin) maintained that the use of the forceps in competent hands did not increase the danger to the perinæum. In Dublin it was the general practice not to deliver by forceps without a consultation.

ART. 251.—*On the Diagnosis of early Pregnancy.*

By ADOLPH RASCH, M.D.

(*British Medical Journal*, August 30.)

The object of the paper was to draw attention to an important symptom of pregnancy of the first three months, of which until now no notice has been taken by French, English, and German authors. After briefly reviewing the early symptoms as taught in handbooks, including the symptom on which Dr. Barnes laid stress before this Association, Dr. Rasch said that no opinion should be expressed in any case unless the uterus had been made out beyond doubt by the bimanual examination. The vaginal examination should always be made by *two* fingers, unless circumstances forbade it, as by so doing results much more accurate could be obtained. An enlargement found, the distinction had to be made between enlargement by hypertrophy, or by tumours, and enlargement by pregnancy. To solve this difficulty, the author has continued his investigation in a very large number of cases of which he kept notes for nearly ten years, and enlarged experience has fully borne out what had helped him in making a few times a right diagnosis where better men had failed. This important symptom was fluctuation. That it must be felt very early seemed to him, *à priori*, certain. For why should half an ounce or more of liquor amnii, enclosed under conditions very favourable for this purpose, not be felt fluctuating equally well as a few drops of pus in a panaritium? The notes of several hundred cases satisfactorily answer this question. Fluctuation could be felt in some cases as early as the seventh week of pregnancy; in most cases after the second month. With every following year the author had less difficulty in detecting this very important symptom. By adding to it the areolar signs of the mammæ, we should be able in many cases to make an almost certain diagnosis. The author here mentioned another valuable symptom in early pregnancy which often directed attention to pregnancy—viz., the increased desire to pass urine, especially at night. It certainly ought to put the practitioner on his guard, and make him eschew the use of that valuable instrument for confirming a diagnosis already made—the uterine sound—which, in fact, should never be used by those that could not dispense with it in making a diagnosis. The objection to fluctuation as a symptom of pregnancy might be that it

could not be felt, or if felt, might be due to retention of other fluid than liquor amnii. Considering the great rarity of retained menses or other discharges, the mistakes would be rare, even if other symptoms did not help us to make a distinction. But it would certainly be safer practice for a short time to suspect pregnancy, where it did not exist, than to do the reverse. To meet the other objection that fluctuation could not be felt so early, Dr. Rasch urged his hearers to try patiently, and assiduity would be rewarded. The best way to feel it was to introduce two fingers into the vagina, while the other hand steadied the womb through the abdominal walls, and alternately to manipulate the uterus with the two fingers. In some part of the uterus the fluctuation would be found often in one corner of the fundus, sometimes lower down. In most cases of early pregnancy, the author found the uterus anteverted, and then the manipulation was easier done than when the womb was retroverted. The fluctuation was in the beginning mostly only felt by the fingers in the vagina, sometimes, too, by the outer hand at the same time. After three months, it would be mostly felt by outward manipulation alone, but we should never trust to that only. The catheter should always be introduced when accurate results were desired.

ART. 252.—*Apoplexy, with Convulsions and Hemiplegia in the Puerperal Period, Terminating in Recovery.**

By A. B. STEELE, L.K.Q.C.P., Lecturer on Midwifery, Royal Infirmary School of Medicine, Liverpool.

(*British Medical Journal*, August 30.)

The following case being, so far as Mr. Steele's observation extends, of an unusual, if not unique, character, and presenting features of much interest, he has deemed it worthy of record.

"The patient is a young Jewess, of florid, dark complexion; of low stature, inclined to fulness; of a highly nervous and excitable temperament. She suffered in childhood from chorea, brought on, it was supposed, by a fright. This was relieved by prolonged treatment, including the baths and waters of Schwalbach. She married about three years ago, being then seventeen years of age, and became immediately pregnant, when the chorea returned, and, during the early months, was very severe and distressing, yielding, however, under a course of valerianate of zinc and aloes. Her first labour was in all respects favourable, except that the child, a male, was still-born. She was confined a second time in less than twelvemonths, of a fine healthy male child, in February, 1872; and a third time in February, 1873, of a living female child. Both these confinements were favourable, and her condition has been satisfactory, the only indications of nervous disturbance consisting in slight occasional choreic twitchings of the limbs. Her last labour was rapid and easy; the membranes ruptured without pain,

* Read before the Obstetric Medicine Section at the Annual Meeting of the British Medical Association in London, August, 1873.

or, at least, with pain of the slightest possible degree, about forty-eight hours before active labour set in, and all was over in a few hours, the child being born before my arrival. Everything went on perfectly well for the first two weeks. I saw her on the thirteenth day, and found her doing most favourably in every respect. On the morning of the fourteenth day, she complained of a peculiar oppressive sensation and confused feeling in the head, and begged the nurse to send at once for the doctor. On my arrival about two hours afterwards, I found her just recovering from what appeared to have been a puerperal convulsion, and was told that this was the second distinct fit since her seizure. She was unconscious, with stertorous breathing, and could not be roused; the tongue protruded between the teeth, but was not bitten severely, although the jaws were rigidly closed. There was not the extreme fullness and turgescence of the veins of the head and neck usual in severe forms of congestive eclampsia; the pulse was full and bounding; the tongue clean. The bowels had been freely relieved shortly before. I opened a vein in the arm; but, after the escape of about six ounces of blood, eclampsia came on, which obliged me to tie up the arm. This fit was only slight, appearing to be cut short by the immediate rapid administration of chloroform, which threw her into a quiet sleep, free from stertor or signs of distress. A large enema of turpentine was administered; and ten grains of calomel were given by the mouth, followed by castor-oil. There was no return of eclampsia, but she remained unconscious until night, when she began to improve, and had some natural sleep.

"The following morning, she appeared much better; but, on proceeding to change her linen, it was found that she had lost both sensation and motion in the left arm and leg; the bladder was also paralysed, requiring the catheter. She was quite conscious, but excessively restless, excited, and unmanageable, talking coherently, but without intermission, in spite of all attempts to keep her quiet. The tongue was clean; pulse 80; temperature normal; urine free from albumen. The bowels had been copiously evacuated. She complained of pain in the right temple; the tongue and face were slightly drawn to the left side; pupils natural. A blister was applied to the neck; ice-bladder to the shorn scalp; and forty drops of Battley's sedative were thrown into the rectum. This procured a few hours' sleep; but, the next day, the restlessness and unceasing talking recurred. A second opiate *per rectum* failed to quiet her; but a scruple of chloral hydrate gave sound sleep for several hours, after which she was calmer and quieter, and free from headache.

"For the four following days she remained in a state of alternate sleep and excitement; the chloral, in half-drachm doses night and morning, kept her quiet for several hours during each day; but, in the intervals, the restlessness and constant talking were most distressing. She was occasionally incoherent, and evidently had delusions; believed she was dying; felt an uncontrollable impulse to bite those around her, and did actually seize the nurse's arm with her teeth. She was only prevented from further violence by her helpless condition from the paraplegia. Her condition now caused much anxiety, as it assumed the appearances of puerperal mania, the prognosis being still more unfavour-

able from the circumstance of an hereditary tendency to insanity. The chloral now appeared to lose much of its calmative effect, and a full dose of Battley was substituted; but the result was not satisfactory; and therefore it was determined to try the endermic use of morphia. One-fourth of a grain at once procured good sleep, from which she awoke much refreshed and comparatively calm. This was repeated every twelve hours for four or five days, during which time the excitement passed away, and natural sleep returned. The bladder gradually recovered its action, but the hand and arm remained completely paralysed as to motive power—sensation, however, being restored. She continued to improve; and, at the end of the fourth week of the attack and the sixth week since her labour, she was able to leave her bed; and, in a few days, was removed to the sea-side.

“At the present time, she has so far recovered as to be able to walk fairly without assistance for upwards of a mile; the power of the upper extremity is almost entirely restored, that of the leg becoming progressively greater; and there is every prospect of complete recovery.”

ART. 253.—*On Transfusion of Blood.*

By H. M. MADGE, M.D.

(*British Medical Journal*, August 30.)

Dr. Madge said that he brought this subject before the Association with the view of increasing the stock of information desired by the Committee of the Obstetrical Society. He noticed the several ways in which transfusion had been performed, viz.: 1. Transfusion with defibrinated blood; 2. Transfusion with pure blood; 3. Immediate transfusion from vein to vein; 4. Immediate transfusion from artery to vein; and gave a summary of the opinions of Playfair, De Belina, Higginson, Braxton Hicks, Richardson, Savage, &c. Of the four plans all might at present be used with an equal chance of success, but transfusion with defibrinated blood was the easiest mode. Direct transfusion from vein to vein, as described and recommended by Dr. Aveling, was apparently rather more difficult than the mediate method, but, with a little practice with Dr. Aveling's simple and effective instrument by passing water through it, the operation would become much easier. The cases of undoubted success which had attended transfusion should encourage the attempt to find out the causes of its failure. In conclusion, Dr. Madge suggested the following subjects for further inquiry:—(1) The exact time at which human blood coagulates when drawn from a vein; (2) Does blood, when injected into a vein, go direct to the heart, or does it become lost or diffused in the general venous system? The effects of transfusion (3) with blood kept in a state of non-coagulation by means of phosphate of soda; (4) With blood containing ammonia; (5) With milk; (6) With defibrinated blood; (7) The microscopic appearances of defibrinated blood; (8) The effects of transfusion, by Dr. Aveling's plan, on animals of the same species; (9) Transfusion with blood in its natural condition; (10) Experiments to show whether the blood of animals can

be introduced with impunity into the human system; (11) Transfusion with defibrinated blood, with the addition of ammonia or phosphate of soda; (12) Transfusion with saline solutions.

ART. 254.—*Injection of Perchloride of Iron in Post-partum Hæmorrhage.*

By W. S. PLAYFAIR, M.D., F.R.C.P.

(*The Obstetrical Journal*, May, 1873.)

Dr. Playfair states that he recently had a case in which he employed perchloride of iron, and firmly believes he saved by it the life of his patient; "yet very grave and even alarming symptoms followed, due, it can hardly be doubted, to its employment." When the iron was injected, although the hand was in the uterus, and the clots within it had been as much as possible removed, blood was still pouring out abundantly. The powerful astringent at once corrugated all the blood and coagula it came in contact with, and these hardened clots filled up the uterus and the canal of the vagina. In due course these began to decompose, and septic absorption took place. By the finger and the intra-uterine injection they were gradually broken down and removed. The improvement unquestionably dated from the expulsion of the two large and decomposing coagula on the sixth and seventh days after delivery. Immediately after this happened, the temperature and pulse fell remarkably, and recovery commenced and continued uninterruptedly.

"What, then, is the lesson to be learnt from this case? Is it that the risk is too great, and that the injection of the perchloride of iron should be banished from practice? I think most unquestionably not. I have little doubt, knowing what I did of the patient's former labour, and having already tried in vain all the anti-hæmorrhagic treatment at our command, that without the perchloride the flooding would have proved fatal. It is, indeed, precisely in these inveterate cases, where every means of inducing uterine contraction proves unavailing, that it forms so invaluable a resource. Rather, I think, it should teach us to limit its use to these only, as, I believe, Dr. Barnes has all along taught. It shows also that the retention in utero of hardened coagula, liable to decomposition, may prove a source of danger hitherto unsuspected. With a knowledge of this fact it would be our duty to secure the expulsion of the coagula as soon as possible after all risk of hæmorrhage had ceased, and make sure that there was a free exit for the discharge.

"This would best be done by satisfying ourselves on the second or third day after delivery that the vagina is not filled with clots, and removing them if present, and by using antiseptic intra-uterine injections freely, as in the above case, should suspicious symptoms arise. With a knowledge of this source of danger it might probably be avoided in most cases."

ART. 255.—*Urgent and Prolonged Dyspnœa coming on suddenly after Labour.*

By J. J. PHILLIPS, M.D., Assistant Obstetrical Physician to Guy's Hospital.

(*British Medical Journal*, May 3.)

Dr. Phillips relates the following interesting case of this in a married lady, aged thirty-six, to whom he was called December 30th. She had been delivered of her fifth child at 2 P.M., after a perfectly natural labour, and continued to do well until 6 P.M., when she complained of oppression, and began to gasp for breath. Dr. Phillips saw her at 9 P.M., when her condition was most alarming. She was sitting up in bed, supported by pillows; the dyspnœa was most urgent; respirations 48, pulse at wrist 140; "respiratory murmur could be heard over the chest in front and behind; there was no abnormal sound accompanying the heart's action, but the first sound was muffled; the legs and the forearms were quite cold; the lips were livid; the face was pallid. She endeavoured on one or two occasions to speak, but could only articulate one word at a time. The history of the case and the symptoms seemed to point unmistakably to a coagulum in the pulmonary artery, and it seemed to us that the treatment should be directed to support the heart's action as much as possible, and this was done by repeated doses of brandy, which with some difficulty were swallowed in soda-water. Five-grain doses, increased to ten grains, of carbonate of ammonia were given at short intervals, and warmth was applied to the extremities. I remained about an hour. The case seemed hopeless. At nine o'clock next morning, however, I found her much relieved. She was able to assume more nearly the horizontal posture; the extremities were warm; the breathing was much more easy, and only 30 per minute; the pulse still very small, 120 per minute; temperature in the axilla, 97° Fahr. Symptoms of improvement had commenced about four in the morning. Her husband and another medical man who sat up during the night, believing that the carbonate of ammonia was doing good, had continued its use in increased doses, so that in twelve hours she had taken two hundred and ten grains of it. The stomach tolerated this large quantity in a remarkable manner. 'She was a little sick two or three times.' The brandy had also been continued, and she had taken a little beef-tea in the early morning. In the evening she was in much the same condition as in the morning; frequency of pulse and respiration the same; temperature only half a degree higher (97.5° Fahr.). She still complained of pain in her chest. During the night some hours of sleep were obtained, and the next day she was more comfortable in every respect. The respirations had fallen to from 20 to 25 per minute; temperature, 99° Fahr.; no abnormal cardiac sound. The strictest rest was maintained. On the sixth day there were some pyrexial symptoms, and on the seventh she began to suffer from severe sickness." She, however, soon improved.

Dr. Phillips thinks that it is impossible to explain the symptoms in this case upon any other hypothesis than that of pulmonary embolism. He thinks it "probable that a loose clot which had formed in the right

side of the heart was driven into the pulmonary artery, giving rise to the urgent dyspnœa which supervened so suddenly. The patient told me that throughout the day she had felt a little shortness of breath. Given that a clot found its way into the pulmonary artery, it is of course quite conjectural what changes took place in it, but it is not improbable that a loose clot might undergo such contractions as to allow the gradual re-establishment of the circulation, coincident with the slow improvement in the general symptoms. Different opinions will doubtless be entertained as to the share which the carbonate of ammonia had in relieving the symptoms, by reducing the hyperinosis of the blood which existed at the time. The large quantity of this alkali which was taken in twelve hours is especially deserving of notice. I am not aware that it has been given continuously for twelve hours in such large doses at such short intervals. Dr. Richardson, in one of his valuable contributions to the subject of thrombosis, gives reasons for administering the liquid ammonia rather than the carbonate, but when this case occurred I had not read Dr. Richardson's remarks on this point. Another fact of interest in the case now reported is the low temperature which continued throughout the day succeeding the most severe symptoms."

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 256.—*Confirmed Hysteria in a Female without Vagina and Uterus.*

By Dr. J. CASTIAUX.

(*Bulletin Médical du Nord*, No. 4, 1873; *Gazette Hebdomadaire*, No. 26, 1873.)

Dr. Castiaux records the clinical history of a young woman, aged nineteen years, who was a patient in the Hôtel-Dieu, under the care of M. Fremy. On very careful examination he made out that the vagina and uterus were absent, although the external genitals were perfectly formed. This patient presented the following symptoms:—

Her humour, which had been variable for a long time, presented the remarkable mobility peculiar to hysterical subjects: she was sometimes merry, at others sad, and often suddenly passed from laughter to tears without any serious motive.

At times her abdomen became distended, the tympanites after a time disappearing spontaneously. There was obstinate constipation. The innervation of the bladder was not less disturbed than that of the intestine. The former organ was sluggish, and did not readily empty itself. The excretion presented all the characters of mucous urine.

The patient also complained of that well-known ascending constriction which proceeds from the epigastric region to the throat (globus hystericus). From time to time she coughed as if to free herself of a foreign body placed at the entrance to the larynx. To these phenomena were added continued and uncontrollable vomiting.

In the midst of all these affections the pulse remained normal, and

the innervation of the heart undisturbed. The axillary temperature did not exceed the physiological standard.

Sensibility presented marked changes; certain cutaneous zones were the seats of complete analgesia. The left leg and foot were completely insensible. The corresponding thigh was sensible only on its anterior surface; the external, internal, and posterior surfaces were dead to all impressions. The anæsthesia extended to the right half of the vulva, whilst the labia majora and minora preserved their sensibility. From the umbilicus to the xiphoid appendage the integument on the right side was insensible as far as the linea alba; on the left side it was sensible, save along a zone of the breadth of two fingers. There was complete hemi-anæsthesia of the trunk, neck, face, and superior limb on the right side, the insensibility being arrested exactly at the middle line.

At the conclusion of this report, which was rendered incomplete by the precipitate departure of the patient, who voluntarily quitted the hospital after a stay of some weeks, the author states that the absence of the vagina, uterus, and probably of the ovaries in this case, exclude any relation between the nervous trunks and the organs in question. This malformation is not incompatible with the manifestation of the characteristic features of confirmed hysteria.

ART. 257.—*On Vaginismus and its Treatment.*

By Professor BREISKY.

(*Schmidt's Jahrbücher*, No. 6, 1873.)

The author has observed three forms of this affection. The first form is generally met with in childless women, who in other respects are quite healthy, and whose genital organs appear to be free from disease; the patient complains at first of abnormal sensibility during sexual intercourse, which at a time is rendered impossible by reason of the pain. In cases of this kind the hymen is generally found intact, and on inquiry it will often be found that the husband is, temporarily at least, impotent. In the second form of vaginismus there are local lesions which cause irritation, and, as a result of this, reflex spasm of the constrictor vaginæ: these lesions consist in fissures or small ulcerations about the hymen, constricting cicatrices at the entrance to the vagina, tumours, excrescences in the vagina or urethra, new growths in the rectum, &c. This form occurs often in women who have just been delivered. The third form appears as one manifestation of a general neurosis, as hysteria, and always persists after the removal of any co-existing morbid condition of the genitals, as catarrh, erosions, &c.

With regard to treatment, the author protests against a too energetic local treatment, as frequent irritation only increases the evil. In young girls an injection should never be made before the entrance to the vagina is dilated. It may be laid down as a general rule that the ordinary plans of treatment, such as the use of astringents, the application of cold, bleeding, and the administration of chloroform and the salts of morphia always fail in bad cases. When a new growth or excrescence is present, its removal is of course indicated. The method of gradual dilatation

will too often cause irritation, and ought, therefore, to be rejected. Forcible dilatation is the most suitable treatment for the first class of cases; the hymen should be first incised if it is not otherwise possible to pass into the vagina the three applied blades of a Segalas's speculum; if the membrane cannot be traversed without an incision being made, the speculum should be at once introduced into the vagina, and the blades then energetically expanded, so as to tear through both the hymen and some fibres of the constrictor lunni.

After one or two repetitions of this operation after intervals of two or three days, a middle-sized Fergusson's speculum can generally be introduced in order to bring about a complete cure.

ART. 258.—*A Theory of Chlorosis.*

By M. LUTON.

(*Bulletin de la Société Médicale de Reims*, No. 10; *Gazette Hebdomadaire*, No. 34, 1873.)

Chlorosis is an anæmia which, according to M. Luton, singularly resembles hæmorrhagic anæmia. Is it not actually an hæmorrhagic anæmia? Putting on one side menorrhagic chlorosis, might there not be some part of the body from which a latent flow of blood takes place, leading to all the proper symptoms of chlorosis? M. Luton compares the classical symptoms of chlorosis and the symptoms caused by hæmorrhagic erosions of the stomach, and arrives at the following consequences:—

1. Chlorosis and certain forms of gastric ulcer are peculiar to the female.
 2. Disorders of menstruation are common to both cases; indeed, Brinton mentions suppression of the menses as a cause of simple ulcer in girls arrived at the age of puberty; this variety of ulcer has even received the name of menstrual ulcer.
 3. In chlorosis, amenorrhœa has its natural correlative in auxiliary hæmorrhages taking place in the stomach as in other organs.
 4. The gastralgic phenomena which are essential in simple ulcer are equally frequent in the course of chlorosis.
 5. Hæmatemesis manifesting itself without pain would correspond to cases where chlorosis exists without gastralgia.
 6. Anæmia, a symptom so characteristic in chlorosis, is met with also in simple gastric ulcer, and then gives rise to a special cachectic condition.
 7. Finally, this parallelism is confirmed by the results of treatment, perchloride of iron being a very efficacious remedy both for erosions of the stomach and for chlorosis.
- M. Luton endeavours to make it understood that the hæmorrhage which gives rise to chlorosis may be produced in any other organ, and does not take place in the stomach alone.

259.—*On Prolapsus of the Womb.*

By WILLIAM GOODELL, M.D.

(*Philadelphia Medical Times and British and Foreign Medico-Chirurgical Review*, October.)

Dr. Goodell attempts to explain that hypertrophic elongation of the supra-vaginal portion of the cervix, so often met with in old-standing

cases of prolapsus, is in no sense a true point, but is a secondary accident, the result of elongation consequent on the traction exerted by a primary prolapse of the vagina and bladder. This is, he thinks, specially apt to occur where the womb is ductile, either from congestion, or through the arrest of post-partum involution, so that it yields more readily to traction. In the treatment he rejects the very difficult and dangerous operation of the removal of a portion of the cervix above the vagina as unnecessary, and is content with removing a portion of the supra-vaginal cervix. It almost always succeeds in curing the disease, and its success is, he holds, an unfailing proof of the correctness of his theory.

ART. 260.—*Two Cases of Excoriation of the Os Uteri.*

By R. J. HALTON, M.D.

(*Dublin Journal of Medical Science*, Sept.)

Dr. Halton places on record the following cases :—

Catherine C., delivered of her tenth child May, 1872, complains of great weakness when she attempts to stand or change her position. Very low spirits and loss of appetite in the morning, while in the evening she finds it difficult to believe there is anything the matter with her. Tongue whitish and curdy. Well-marked purple line on gum border. The speculum showed a large raspberry excoriation on both lips of the uterus. There was no irritability of the bladder and no pain. The treatment consisted of astringent injections night and morning, and the excoriations were touched weekly with the nitrate of silver. She was directed to take two-grain doses of quinine thrice daily.

Sept. 20th.—Excoriations healed. There was no notable improvement in the spirits until the excoriations were almost healed, and then suddenly she got rid of all inconvenience.

Mrs. P., aged thirty. Last child four weeks old. Felt some difficulty in walking when she got up first after her confinement. Complains now of a burning pain internally and great irritability of the bladder. She is rather nervous, and fears she may be labouring under some fatal disease. Appearance healthy; pulse quiet; tongue clean, and appetite good; uterus somewhat lower than usual. The speculum shows a raw-looking papilla, or granulation, just inside the posterior lip of os, and some smaller ones on the anterior lip. The excoriation was touched with strong tincture of iodine, then with nitrate of silver, but finally with carbolic acid. She took internally sulphate of quinine, and occasionally a potash tonic mixture, and used astringent injections night and morning. Her improvement was very gradual, and she was not perfectly cured until July.

ART. 261.—*Amenorrhœa from Congenital Malformation.*

By F. CHURCHILL, M.D.

(*British Medical Journal*, August 9.)

At a meeting of the Dublin Obstetrical Society, May 10th Dr. Churchill read a paper on this subject. To make an accurate

diagnosis was often difficult, and yet the question of relief depended upon this point. The means of forming a diagnosis were either physiological or physical. The first dealt with the presence of the menstrual molimen and of sexual gratification, &c. By means of the second, we judged of the presence or absence of the different organs of generation. A most useful method of examination was that termed the bimanual manipulation. Dr. Churchill related twelve cases in illustration of his subject, in some of which the ovaries were either not present or were in an infantile state, undeveloped, and not acting; while in others the fault consisted in the absence of uterus, or in congenital closure of the os uteri (one case). As regards treatment, of course in most cases nothing could be done; but to remedy an undeveloped state of the uterus, Sir J. Y. Simpson had recommended the use of a galvanic pessary. A practical question was, whether we think that a patient ought to marry in whom these defects were discovered. However reluctant we should be to condemn her to a single life, it should not be forgotten that another person is concerned in the matter, and therefore the decision against marriage is called for, or, if she be fully bent upon marrying, the other party ought to be fully informed as to the existing defect.

Dr. Ringland described a remarkable case of unilateral development in a young lady, aged twenty, who had never menstruated naturally, but in whom vicarious discharges at each monthly period had occurred for more than four years, through the bladder, rectum, nose, or eyes. The left side of her body was perfectly developed sexually, while the right was not so. The left breast was normal, the right resembled that of a girl of twelve; there was hair on the left side of the pubes, none on the right; the left labium was fully formed, the right was almost wanting. The clitoris, vagina, and uterus were absent. The left ovary could be felt, but the right could not be detected. Sexual desire existed in this case, but a strong opinion as to the inadvisability of marriage was given.

Dr. Kidd and the Chairman (Dr. Atthill) alluded to the great use of the galvanic pessary in cases where the uterus or ovaries were not absent, but merely in a rudimentary or infantile condition.

ART. 262.—*On Endometritis.*

By LOMBE ATTHILL, M.D.

(*Dublin Journal of Medical Sciences*, May.)

Dr. Atthill fully recognises the impossibility of effectually curing cases of this kind, except by appropriate intra-uterine medication. The practice he recommends is the free cauterization of the cavity of the uterus with the piercing nitric acid, a method he has constantly adopted, and which has, in no single case, been followed by bad results. He generally commences by local depletion of blood; then he applies his remedy through an instrument devised by him, called the intra-uterine speculum, the cervix having first been dilated with sea-tangle tents. In

the discussion which followed the reading of the paper, it was stated by Dr. Churchill and others, that they had constantly adopted the practice with much benefit to their patients.

Dr. Playfair, in commenting upon the paper in the *British and Foreign Medico-Chirurgical Review*, says: "Dr. Atthill's experience, corroborated as it is by other distinguished Dublin physicians, conclusively proves the safety of intra-uterine applications in suitable cases. The risk of this plan seems to be not the strength of the application used, but the preliminary dilatation with tangle tents, which is recommended. The dilatation of the cervix is in itself a serious operation, not unfrequently followed by formidable consequences, and it is an expedient not to be lightly adopted.

ART. 263.—*On Chronic Endometritis as a Cause of Abortion in Displaced Uteri.*

By Dr. SLAVJANSKY.

(*Edinburgh Medical Journal*, August.)

The author explains the frequency of abortions in connexion with flexions of the uterus, by the theory that they give rise to such alterations in the circulation in the decidua, as to produce changes in it which eventually lead to abortion. He gives the details of two cases in which the abortive ovum, in cases of flexion, was very carefully examined. In both changes were observed, which led to the diagnosis of chronic inflammation of the decidua. The author believes that this is not an uncommon cause of such miscarriages.

ART. 264.—*A Case of Chronic Inversion of the Uterus in which Reduction was effected by Manipulation.*

By GEORGE H. KIDD, M.D., &c.

(*Dublin Journal of Medical Sciences*, July.)

At a meeting of the Dublin Obstetrical Society, June 14th, Dr. Kidd said he was consulted in December, 1872, by a lady, who handed him a letter from Dr. O'Meara, of Carlow, a portion of which he would read, as it gave a graphic account of the case. Dr. O'Meara's letter was dated the 5th November, 1872. He said: "She was confined four months ago and attended by a country midwife. She consulted me for the first time twelve days ago. On examination I found *inversio uteri*. It was caused, I believe, by dragging at the cord to bring away the placenta immediately after the child was born. She has been subject to hæmorrhage almost continually since her confinement. I have taken into account the possibility of the tumour being a polypus. I am of opinion it is not, but unfortunately a case of inversion. I desired her to remain in bed for some days after I saw her last. She has done so, and consequently feels so much better that she fancies herself quite

well. I have not seen her for the last eight days, and cannot believe matters have altered spontaneously. On two or three occasions the organ protruded beyond the vulva. I have explained the serious nature of the case to the patient and her friends, and have recommended them to consult you." Dr. Kidd proceeded to say that when the patient consulted him he found a tumour in the vagina which, on careful examination, he found to be an inversion of the uterus. It was almost complete, that is to say, the neck of the tumour was surrounded by a portion of the lip of the uterus, but not more than one-fourth of an inch in depth. A section of the tumour would present an appearance like the diagram which he exhibited. He had some doubt as to whether he should call it a complete or incomplete inversion; but it was as complete as any case he had seen; there was nothing but a small lip that had not been turned in. The woman was extremely pale and anæmic, and had a countenance expressive of very great suffering. She came into the Coombe Hospital, and after allowing her to remain in bed a few days, he tried to reduce the tumour. He put her under the influence of chloroform, and placing her on her back on the table, he introduced his hand completely into the vagina. He grasped the tumour in his hand, and compressed it for a few seconds, so as to empty it completely of blood. He then lengthened his fingers, and grasping the tumour between them and his thumb, and compressing it as much as he could, he gradually pushed it up into its place.

There were three methods of manipulation described for reducing an inverted uterus. One of these consisted in an attempt to push back the portion of the uterus which had last escaped; that is to say, to try to push back the narrow portion of the neck of the uterus, to push it up bit by bit, till you gradually get the fundus into its place. Another mode was to begin at the fundus and try to push it up with the finger or some instrument, re-inverting the tumour; and the third method, which was especially applicable to recent cases, consisted in re-inverting the horns of the uterus first, because it had been observed that the first displacement began at the horns of the uterus. This method was especially applicable to recent cases. He did not know that it had ever been attempted in a chronic case. The choice then was between beginning at the neck of the uterus and getting up the fundus last, or beginning with the fundus first. He tried the former method, beginning at the neck, and pressing it up bit by bit, and finally getting the uterus into a normal position; it passed up slowly and gradually. It was stated in books that very often in such cases when the uterus is partly replaced, the remaining portion goes back with a bound. Such was not his experience. It went up bit by bit, as he pressed his fingers in. To make sure it had quite returned he passed his finger into the cavity and raised the fundus, so that it could be distinctly traced by the hand placed on the hypogastrium. The patient made a perfect recovery, and the only inconvenience she suffered was a slight laceration of the fourchette produced by the passing in of the hand. Though only a single case, he thought he was not the less bound to bring it forward; for it was important to bear in mind that some cases of inversion of the uterus can be reduced by manipulation, when they know that such formidable operations were recommended, as making an incision in the

abdominal walls, and dilating the inverted uterus with an instrument like a glove-stretcher, or making an incision into the substance of the uterus as it lies in the vagina, till you come down nearly upon the serous membrane, so as to allow it to dilate. These operations no doubt might be necessary, but it was important to know that many cases could be restored without them; and they should be reserved for very extreme cases, as no doubt the authors of both operations would themselves admit.

ART. 265.—*The Diagnosis and Treatment of Uterine Polypi.*

By THOMAS MORE MADDEN, M.D.

(*British Medical Journal*, September 27.)

At a meeting of the Dublin Obstetrical Society, June 28th, Dr. Thomas More Madden read a long and interesting paper on this subject. The tumours which the author had observed varied in form and size from the small, gelatinous, pea-shaped polypus, growing near the os, to the intra-uterine fibroid, as large as the mature foetal head, attached to the fundus uteri. There were three classes of uterine polypi—viz., mucous, fibroid, and cystic. The first were developed from the uterine mucous membrane or from the glands of the cervix; the second, formed within the pseudo-mucous substance of the uterus, were interstitial, sub-peritoneal, or sub-mucous. The distinction made between intra-uterine tumours and intra-uterine polypi was quite untenable. The most prominent symptoms of uterine polypus were menorrhagia or persistent metrorrhagia, and a profuse or foetid leucorrhœa; enlargement of the uterus, with a sense of weight and fulness in the pelvis, and a varying degree of pain; symptoms of pressure on the bladder or rectum, resulting from uterine displacement; lastly, general anæmia, cardiac palpitation, anorexia, dyspepsia, and irritability of stomach with retching. The treatment of uterine polypi fell under two heads, surgical or curative, and medical or palliative. The revival of the former or surgical method (for it was at least three hundred years old, dating from the time of Ambrose Paré) was due to M. Levret, who in 1749 used the ligature for the removal of uterine polypi from the vagina. In 1829, Dr. Gooch modified and improved this method, but it remained imperfect until Sir James Simpson suggested the dilatation of the os and cervix uteri by means of sponge-tents preparatory to the performance of the operation. Even this procedure was not novel, for Philip Barrough, in the *Methode of Physick*, published in 1639, had proposed dilatation of the mouth of the womb. Dr. Madden described the various methods employed at present for the removal of these growths. The medical treatment of cases of this disease had not kept pace with the improvements in its surgical treatment. Among serviceable remedies, the iodides and bromides of ammonium and potassium, and iodine in small doses, might be mentioned, a lengthened course being required. Savage's method of iodine injection into the uterine cavity, and brushing over the tumour with a solution of iodine in glycerine (ten or twelve grains in an ounce), were useful. To relieve uterine congestion, tepid or cold local injections

were to be commended, administered by means of Dr. Graily Hewitt's vaginal douche, or by a new syringe which Dr. Madden exhibited to the Society. The symptoms of uterine polypi, in cases where operative measures were inadmissible, might disappear under a course at a suitable iodated or bromated spa, such as Kreuznach, Wildegg, or Schinznach. Details of twelve cases of the affection were then given, and the specimens in many cases were shown to the Society.

The Chairman (Dr. Atthill) advocated the surgical treatment of uterine polypi in most cases. Dilatation of the os uteri, for the purpose of applying medicinal agents, was to be avoided as far as possible, the consequences often being severe.

Dr. Kidd could not place much reliance in the treatment of these tumours, either by medicated waters or by chloride of calcium and other remedies.

After some remarks from Dr. H. Kennedy, Dr. Churchill spoke of the dangerous consequences which sometimes resulted from the introduction of even a single sea-tangle tent.

Dr. More Madden replied.

ART. 266.—*Case of Fibroid Polypus, complicated with Complete Inversion.*

By A. J. FIELD, M.R.C.S.

(*St. Bartholomew's Hospital Reports*, 1872.)

Mr. Field relates an interesting case in which a fibroid tumour, weighing twenty ounces, was attached to the fundus of a completely inverted uterus. From the history of the case, it appears that the inversion must have occurred acutely at the fundus, following down the intra-uterine polypus, as it were, expelled by uterine contractions. The tumour was removed by the *écraseur*. Subsequently various attempts were made to reduce the inversion, at first by continuous pressure with a caoutchouc bag, afterwards by manipulation of the uterus. These were eventually successful, but not until pressure had been kept up for a period of twenty days.

ART. 267.—*On Retro-uterine Hæmatocele.*

By Professor DOLBEAU.

(*Medical Times and Gazette*, March.)

In a lecture on this subject, Dr. Dolbeau explains the fact that the hæmorrhage in some cases of retro-uterine hæmatocele is very dangerous, and the reverse in others, by the supposition that in the latter it is the result of a pelvic peritonitis of a hæmorrhagic form. From some cause or other, a pelvic peritonitis is produced by it, numerous adhesions are formed, shutting off the general peritoneal cavity. In these new blood-vessels are formed, and it is from the rupture of these that the hæmorrhage is produced. Analogous instances of hæmorrhage are found in

meningeal hæmorrhage, in cases of arachnitis, and in scrotal hæmatocele. A similar doctrine was advanced by Virchow in 1862, whose claims to priority the author contests.

ART. 268.—*On Retro-uterine Hæmatocele.*

By Dr. F. WEBER of St. Petersburg.

(*Berliner Klinische Wochenschrift*, No. 1, 1873 ; *Schmidt's Jahrbücher*, No. 3, 1873.)

The author, supported in his views by twenty-three cases, agrees with Küchenmeister concerning the nature of hæmatocele, only with this difference, that he by no means regards extra-peritoneal effusions of blood in the cellular tissue surrounding the uterus and its associated structures as exceptional, since the majority of cases which are accompanied by spontaneous discharge of the contents through the rectum may be regarded as examples of extra-peritoneal blood effusions.

Hæmatocele is amongst the rarest of gynæcological lesions, and is met with in scarcely two per cent. of the females treated in a hospital. It is met with especially in young subjects, not being due, however, to the early period of life, but to the activity of the sexual organs at this period. Shaking of the body, in whatever way it may be produced, may be regarded as the most frequent cause of hæmatocele. With difficulty in the diagnosis of an effusion of blood into the pelvic cavity or into the pelvic cellular tissue, especially when this has been of long standing, many indications may be afforded by the symptoms and the manner of origin of the affection. In the cases observed by the author, the hæmatocele always came on with more or less considerable uterine hæmorrhage, which, even in moderately healthy-looking and ruddy subjects, brought on anæmia in a wonderfully short time. On the second or third day this hæmorrhage was often associated with a tumour in the previously soft abdomen, which extended three or four inches above the symphysis pubis, and in some cases as far as the umbilicus. The rapid formation of this tumour, the urgent indications of a sudden anæmia with but slight external hæmorrhage, and the absence of febrile symptoms, render easy the diagnosis of hæmatocele from acute peritonitis. The tumour, which at first feels very soft, soon becomes doughy, and at last presents a firm induration. Under suitable treatment, the tumour diminishes rapidly in size ere it becomes associated with peritonitic symptoms. In doubtful cases the difficulty of diagnosis is much increased by the addition of peritonitis. The absorption of the solid remains of the tumour often goes on very slowly ; after long persistence the mass suppurates, the pus at last making its way externally, in most cases, through the rectum. This discharge never takes place in cases of intra-peritoneal effusion of blood. The peritoneum rapidly absorbs even large masses of effused blood, whilst, on the other hand, blood effused in cellular tissue readily becomes putrid and suppurates.

According to Dr. Weber's observations, the prognosis in retro-uterine hæmorrhage, with regard to mortality, is favourable. In fresh cases with effusion of blood into the peritoneal cavity termination in complete

recovery was common; in cases of extra-peritoneal effusion, on the other hand, in those of old intra-peritoneal hæmatocele, and in those where the pelvic hæmorrhage was the precursor of disease of the uterus and associated structures, complete recovery of the patient seldom takes place. It should be remarked that so long as retro-uterine hæmatocele persists there is always a predisposition to a return of the hæmorrhage; this fact is of importance in relation to the therapeutics of the affection.

In the treatment of retro-uterine hæmatocele one must endeavour to prevent relapses, to promote absorption of the extravasated blood, and to remove the symptoms that are associated with the main lesion. The first indication is best fulfilled by placing an ice-bag over the lower part of the abdomen. The signs of anæmia indicate the administration of iron, wine, and tonics: the perchloride of iron works both as a tonic and styptic. Incipient pelvi-peritonitis is treated by the author according to general rules, but he takes care not to discontinue the use of ice. In order to hasten as much as possible the absorption of the remains of the extravasation, blisters are applied at late periods of the affection, and iodine used both externally and internally. The discharge of the degenerated and suppurating mass, the author leaves to nature, and the so frequently commended puncture of the fluctuating tumour through the vagina is rejected. By this latter proceeding the affection is certainly shortened, but as statistics prove, generally in consequence of the death of the patient. The place of election for the spontaneous discharge of the purulent mass is the rectum, and at a point in this portion of the intestine higher than the convenient seat of an operation. Spontaneous discharge of a hæmatocele through the vagina has never been observed by the author.

ART. 269.—*On the Treatment of Chronic Cervical Endometritis.*

By Dr. LEVY of Munich.

(*Schmidt's Jahrbücher*, No. 5, 1873.)

The author associates with the ordinary treatment of endometritis cervicalis (dilatation of the cervical canal by sponge-tents, &c., and local treatment of the diseased mucous membrane), the employment of a kind of pressure bandage, which he applies to the portio-vaginalis from without. By means of this, the sponge-tent, or cone of laminaria, is prevented from slipping down from the cervical canal, and the diminution of the thickened and indurated portio-vaginalis takes place much more rapidly under the double pressure of the swelling sponge-tent from within, and of the bandage externally. The author remarks that the application of the compressing apparatus is not unattended with difficulty, and describes two forms, one applicable in cases where the portio-vaginalis is elongated or of normal length, the other in cases where it is shortened.

In the former class of cases, the author, after the introduction of a sponge-tent into the cervical canal, applies over this a thin layer of wadding saturated with glycerine, and then several layers of dry

wadding, so that the vaginal portion is entirely covered. If the portio-vaginalis be of sufficient length an elastic ring is pushed over the mass of wadding by means of long dressing forceps; this presses the wadding against the outer surface of the portio-vaginalis, and also increases the resistance to the swelling sponge-tent or cone of laminaria.

In cases where the portio-vaginalis is reduced in length, the author, after the application of the sponge-tent and charpie, introduces through the vagina a strip of gutta-percha rounded at the angles, this strip being a few millimetres in thickness, from three to four centimetres in breadth, and with a length varying according to the width of the vagina. This strip of gutta-percha is bent with the ends upwards, and placed so as to surround the neck of the uterus, and thus to retain the tent and the wadding in place. This apparatus is allowed to remain for between eight and twelve hours. After its removal warm injections are applied for two hours daily, and then on the third or fourth day the apparatus is again applied, a larger tent being now required in consequence of the dilatation of the cervical canal. After frequent repetition of this application, the inner surface of the cervical canal is laid free and rendered amenable to suitable local treatment, in which frequently repeated cleansing injections play the chief part.

If the vaginal portion be shortened as well as thickened, the author prevents the tent from slipping away by applying a small clip fixed after the manner of a *serre-fine*, which closes the external orifice after the introduction of the compressed sponge. In cases of this kind the tent is allowed to remain for twenty-four hours, as with a much thickened and shortened vaginal portion dilatation is generally very difficult.

ART. 270.—*On Puerperal Convulsions.*

By EDWARD COPEMAN, M.D., F.R.C.P., Senior Physician to the Norfolk and Norwich Hospital.

(*British and Foreign Medico-Chirurgical Review*, October.)

Dr. Copeman relates the particulars of fourteen cases of puerperal convulsions occurring in his own consultation practice, of which only one proved fatal. With regard to treatment, he places in the foremost rank venesection, to the extent of relieving signs of external congestion when these are present. After venesection he believes opium to be the best remedy; and it is not, he says, unusual for patients to awake almost well after a long sleep. In some cases the inhalation of chloroform is very beneficial in subduing the convulsive movements and preventing exhaustion, and in others the only way of putting a stop to the convulsions is to put a termination as soon as possible to the labour. Dr. Copeman lays it down as a *general* rule that convulsions before labour require bleeding, and those after labour do not; this, however, not without many exceptions, dependent upon the cause and nature of the symptoms. Convulsions during labour occupy a middle space, and must be treated according as they partake more or less of the other two divisions. Convulsions dependent upon fear or alarm and of an hysterical or epileptiform nature do not require bleeding, but are more

satisfactorily treated by opium or inhalations of chloroform. It is said by Dr. Carl Braun, a German physician, that chloroform inhalations are the best means of mitigating and bringing to an end anæmic convulsions, either during pregnancy, labour, or in the puerperal period. The first case related by Dr. Copeman was that of a strong plethoric woman of twenty-five years, who had had an attack of convulsions at the eighth month of pregnancy, with slight indications of commencing uterine action; and under the idea that labour would go on and be accompanied with convulsions, Dr. Copeman was requested to see her. She was largely bled and had a turpentine enema, and, contrary to expectation, she had no more attacks of convulsion, but went on to her full period, and passed through her labour without any complication.

ART. 271.—*On Renal Affections of Puerperal Origin.*

By Dr. AUGUSTE OLLIVIER.

(*Archives Générales de Médecine*, Mai, 1873.)

“It has been long known that albuminuria may exist during pregnancy, independently of the various causes (alcoholism, chilling, syphilis, &c.), which in the pregnant woman, as in any other subject, may give rise to this condition.

“In a former work I mentioned the statistics of Dr. W. Roberts, according to which the rate of mortality in respect to albuminous nephritis is 80 women to 100 men, and this between the ages of twenty and forty years—that is to say, during a period of life when congestion may occur. Beyond this epoch the proportion is smaller, and yet the ordinary causes of Bright’s disease exist with the woman as much after as before the age of forty-five years. Before the age of forty-five, however, the influence of pregnancy is to be regarded as a cause.

“From the statistics of the hospitals of Paris for 1861 and the three following years I have collected, taking count only of returns from hospitals for adults, 673 cases of albuminous nephritis; of this number 231 were females and 442 males; the proportion is somewhat less than that given by Dr. Roberts. It is an undoubted fact, however, that the habitual causes of albuminous nephritis are exerted in the case of the woman compared with that of the man, to a smaller extent than is indicated in the above statistics; it is certain, then, that to the habitual causes of nephritis ought to be added one other of importance which has not been sufficiently dwelt upon—viz., pregnancy.

“The process in the kidney is the same as that in the thyroid gland, the heart and the liver—that is to say, the irritative action of a product of conception causes, as the first disturbance, a subacute congestion, with slight albuminuria, which is not accompanied by œdema, but the slow course of which may result in a chronic condition and determine true Bright’s disease.

“But it may happen that the irritative action is intense; then a subacute lesion results, the urine becomes very albuminous, and severe symptoms of eclampsia are often observed.

“Finally, there are cases of Bright’s disease in which the affection is

not recognised until long after one or several labours, and cannot possibly be attributed to any recognised cause. In these cases it is very probable that a congestion of the kidneys occurring during pregnancy and persisting after delivery has been allowed to pass unnoticed; and it may be easily understood why attention had not been paid to the change in the condition of the urine. This slight congestion does not cause any serious illness, and is generally unaccompanied by œdema.

"Let us pass in review, with more attention to detail, the three conditions of these renal disturbances due to pregnancy.

"1. One of the most frequent forms which the albuminuria of pregnant women presents is that due to subacute congestion of the kidney. This variety of albuminuria appears habitually in the last months of pregnancy, but it may occur at an earlier period. M. Bach has observed a case in which it occurred six months after the commencement of pregnancy, and M. Caseaux a case in which it occurred four months before. In a former work I reported a case of a woman whose urine was albuminous from the third month of pregnancy.

"Usually the quantity of albumen contained in the urine is small; frequently there are but traces to be found; the symptoms by which its presence may be revealed are never very evident. Sometimes there is slight perimalleolar œdema, but this is not very apparent and disappears rapidly. In a great majority of cases this form of albuminuria continues until delivery, and shortly after delivery no traces of albumen are to be found in the urine. But it is not always thus: the albuminuria may persist; there may be gradually formed a chronic albuminous nephritis, the symptoms of which are not manifested until long after delivery. Often it is only by seeking with care for antecedents that the disease may be traced back to pregnancy.

"2. We have seen that the albuminuria which accompanies pregnancy may disappear without having determined any serious symptom during its whole course; the congestion of the kidneys, in these cases, disappears together with the productive causes, and leaves no trace. But it may happen that the renal lesion, instead of being restricted to a subacute congestion, may become more intense; then we have to deal with a true acute inflammation, with rapid evolution and determining serious symptoms. These symptoms vary; very often there may exist œdema of the lower limbs and puffiness of the face, and one may hear also of cephalalgia and disturbances of vision. Finally, there may be present all the symptoms of acute nephritis. Under the influence of the special physiological condition of the woman, convulsive attacks sometimes occur suddenly, are repeated, and finally determine death. The fact of the combined action of the nephritis and of the fœtus in utero in the production of eclampsia seems at the present day to have been well demonstrated, at least for a good number of cases. If death does not take place in the midst of these disorders, the albuminuria will disappear after delivery, usually in a very short period.

"3. The two forms of renal lesions just described may pass into a chronic condition. Usually the albumen disappears from the urine very soon after delivery. According to M. Blot, four days is the maximum, and to MM. Devilliers and Regnault fifteen days. In one case observed by M. Cohen, albumen was present in the urine eleven days after

delivery. In all these cases the albumen finally disappeared, and the patients recovered.

"In analysing the cases published nearly twenty years ago by M. Leudet on albuminous nephritis consecutive to the albuminuria of pregnancy, one will find that in the first case the albuminuria persisted for twenty-nine days after delivery. The same author refers to a case of Rayer's, in which albumen was found in the urine nearly five months after delivery. In case 3 of Leudet's memoir, œdema came on in the fifth month of pregnancy. The urine was not examined until the ninth month, but was then found very albuminous. The excretion of albumen was accompanied by attacks of eclampsia, which occurred long after delivery. The patient was delivered on October 16th, 1852, and on March 20th, 1854, she came under the care of M. Rayer with all the symptoms of Bright's disease.

"In a work which appeared shortly after M. Leudet's memoir, M. Imbert-Gourbeyre is still more explicit, as he expressly states that in half the cases puerperal albuminuria disappears rapidly between the second and fourteenth days after delivery, and that in one-sixth of the cases it passes into a chronic condition.

"These facts will suffice to demonstrate the existence of a chronic albuminous nephritis due to pregnancy, and which may persist after delivery, and follow its usual course. This origin of Bright's disease has been disputed.

"Thus, according to Rosenstein, pregnancy, though evidently favourable to the production of œdema, albuminuria, and congestion of the kidneys, owing to the diminished density of the blood and compression of the renal veins, is still but rarely the starting-point of serious inflammation of the kidneys. Even in the very rare cases in which pregnancy has led to diffuse nephritis it is still more rare for the disease to pass into the stage of granular atrophy.

"Vogel also thinks that in the albuminuria of pregnant women the condition of pregnancy plays no very important part. 'It is due,' he states, 'to occasional causes, such as chilling, &c., which in these cases act more readily on the kidneys.' Probably the direct compression of the ureters may cause stagnation of urine in the calices and pelvis, pyelitis, and, by extension of the inflammation, catarrh of the renal papillæ and the straight tubules.

"However great may be the authority of these two pathologists, their opinion cannot do away with the observations made by the authors whom I have quoted. These observations remain in all their force, and I can add one other proof that pregnancy is really an occasional cause of Bright's disease.

"In 1865 I had occasion to observe in the Hôtel-Dieu a case in which albumen had been present in the urine of a primipara, aged twenty-seven years, from the third month of pregnancy. Delivery took place easily and regularly, notwithstanding the persistence of the albuminuria; but the delivery was not followed by the recovery of the patient. Puffiness of the face was soon observed, and afterwards general œdema. Twenty months after delivery she succumbed, with all the symptoms of Bright's disease in its last stage. An autopsy could not be made, still there could be no doubt concerning the diagnosis, in consequence of the

phenomena observed during life and the condition of the urine, which presented under the microscope numbers of hyaline cylinders.

"Even in Germany all authors do not agree in opinion with Rosenstein and Vogel. Lebert in his classical work states 'that it is not so rare an event as is generally supposed for true Bright's disease to be developed towards the end of pregnancy. Of late years I have seen three pregnant women die from this disease, and I found at the autopsies characteristic degeneration of the kidneys; in several other cases the affection has followed after delivery the ordinary course of Bright's disease.'

"To the authority of Lebert I would add that of an English physician, Dr. Roberts, who, in his excellent work on the diseases of the kidneys, states that this subject of the exact nature of the relation between albuminuria and the puerperal condition has been much discussed. Some affirm, he states, and others deny, that pregnancy may be an efficient cause of Bright's disease, the uræmic origin of puerperal eclampsia having also been equally affirmed and denied. There can be no doubt, Dr. Robert goes on to state, that a great number of cases co-existing with or consecutive to pregnancy are but examples of the coincidence of two perfectly independent conditions. Pregnant women are surely as liable as other persons to contract Bright's disease from ordinary causes, and reciprocally female subjects of Bright's disease may become pregnant. But after the elimination of cases belonging to these two categories, there remains a considerable number in which the Bright's disease has been really caused by pregnancy."

ART. 272.—*On Chronic Affections of Puerperal Origin.*

By Dr. AUGUSTE OLLIVIER.

Archives Générales de Médecine, Janvier et Avril, 1873; *Gazette Hebdomadaire*, No. 23, 1873.)

This memoir sums up and completes researches that have been carried on for several years, and the results of which have been successively communicated to the Société de Biologie, of Paris. These investigations refer especially to affections of the heart, to hemiplegia, and to puerperal albuminuria. The author now endeavours to associate these different affections and to subordinate them to a common cause—viz., the organic and functional modifications established in the constitution of the female by the state of pregnancy.

Among the chronic lesions of puerperal origin M. Ollivier has especially chosen for demonstration lesions of the thyroid body, the heart, the liver, and the kidneys.

The influence of pregnancy on the production of goître, first pointed out by G. L. Petit, is recognised by the chief accoucheurs. This form of goître may be temporary, and may disappear at the end of pregnancy, or it may continue after delivery and become permanent. Sometimes the course of the malady is acute. In one case reported by Dr. Tarnier the goître was developed with much rapidity, and caused death by suffocation. Sometimes the goître inflames and suppurates.

The heart also may be affected under the influence of pregnancy. The modification may take place in the muscular tissue or in the endocardium.

Hypertrophy of the left ventricle, as was pointed out in 1828 by Larcher, seems to be of frequent occurrence in pregnancy. Sometimes inflammation and fatty degeneration of the myocardium occur.

With regard to the endocardium, the morbid process may present one of three different forms. The subacute form constitutes the ulcerative endocarditis observed by Simpson in 1856, and afterwards studied by Virchow, Charcot, and Vulpian. The acute and subacute forms do not differ very much from the form of endocarditis observed in cases of rheumatic fever. The attention of Dr. Ollivier was directed especially to the chronic form.

These endocarditic lesions seem to explain certain paralyses, chiefly certain puerperal hemiplegia, which recognise arterial embolism as their immediate cause, the remote and originating cause being a morbid change of the endocardium. It is well known that in ulcerative endocarditis these cerebral accidents of embolic nature form part of the morbid tableau.

The liver is frequently affected in pregnancy. A certain number of instances of simple jaundice evidently recognise this influence. Sauvage and Portal have described cases of this kind, and attribute the jaundice to compression of the biliary passages. It may be stated, by the way, that this explanation is refuted by the single fact that jaundice rarely occurs under such conditions. The influence of pregnancy on the development of intense jaundice and of acute yellow atrophy has been pointed out by Ozanam, Frerichs, and Niemeyer. A more severe lesion—viz., cirrhosis, may be developed under the same conditions. M. Ollivier endeavours to prove that this cirrhosis is the effect of pregnancy, and cannot be attributed to a concomitant cardiac affection, which would not determine a true cirrhotic condition, but rather that special condition of the liver known anatomically under the name of nutmeg liver.

It has long been known that during pregnancy albuminuria may occur independently of anterior causes which usually give rise to this condition. This albuminuria may be temporary and slight, and not productive of harm. There is a more serious form, however, in which it follows an acute course, and is accompanied by puffiness of the face; then the albumen is abundant in the urine. This form generally ends in eclampsia. The albuminuria frequently terminates at delivery, or persists but for a few days afterwards. It may, however, be prolonged, and constitute true Bright's disease, evidently due to the pregnancy itself, and not to influences produced independently of this condition.

In concluding his memoir, M. Ollivier endeavours to determine the common cause of these different maladies which are manifested in the pregnant woman. Leaving out of the question the changes in the blood, he believes that he has discovered this cause in reflex actions, having their starting-point in the gravid uterus. These reflex actions are summed up in vaso-motor disturbances, which have for their consequences congestion of the principal viscera. The gastric disturbances of pregnancy have probably the same cause, and also probably have those analogous modifications of circulation and nutrition to which may be

attributed those mental disturbances which, under the form of mania and melancholy, figure in the pathology of pregnancy.

ART. 273.—*On Vaginismus from Lead-Poisoning.*

By Dr. NEFFTEL.

(*Brown-Séguard's Archives of Practical Medicine*, March.)

The author describes a case of vaginismus from lead-poisoning, which had come under his observation, in addition to three others already published, in which it resulted from the use of cosmetics containing lead. The present case was that of a young actress, and was traced to the same cause. There was also saturnine colic. The face and extremities were cold; the contractions of the heart feeble, only 44 in the minute. The issue of this case is not given, but in those previously referred to, the cure of the plumbism cured the vaginismus.

ART. 274.—*On Vaginal Urethrocele.*

By Dr. GILLETTE.

(*L'Union Médical*, Avril.)

The author relates an interesting example of this condition, in which he found a partial dilatation of the lower portion of the urethra, forming a projection on the anterior wall of the vagina, in which urine collected, and from which it was expelled on slight exertion. This he eventually treated by the excision of a flap of the substance of the vaginal wall, forming the dilated pouch, and bringing the edges together with sutures; and this operation proved effectual in relieving the distressing symptoms.

ART. 275.—*Forcible and Rapid Dilatation of the Cervix Uteri, for the Cure of Dysmenorrhœa.*

By JOHN BALL, M.D., Brooklyn.

(*New York Medical Journal*, October.)

In a paper read before the Medical Society of King's County, New York, June 16th, 1873, Dr. Ball gave the following description of the treatment he has found satisfactory in cases of constricted cervix uteri:—

“My method of procedure is first to evacuate the bowels pretty thoroughly beforehand, so as to prevent all effort in that direction for two or three days; I then place the patient upon her back, with her hips near the edge of the bed, and, when she is profoundly under the influence of an anæsthetic, I commence by introducing a three-bladed

self-retaining speculum, which brings in view the os uteri, which I seize with a double-hooked tenaculum and draw down towards the vulva, when I first introduce a metal bougie as large as the canal will admit, followed in rapid succession by others of larger size until I reach No. 7, which represents the size of my dilator. I then introduce the dilator and stretch the cervix in every direction, until it is enlarged sufficiently to admit a No. 16 bougie, which is all that is generally necessary. Then I introduce a hollow gum-elastic uterine pessary of about that size, and retain it in position by a stem, secured outside the vulva, for about a week, in which time it has done its work, and is ready to be removed.

“During this time I keep the patient perfectly quiet, and usually upon her back, which is generally found to be the most comfortable position.

“The effects of this operation seem to be threefold: First, by breaking up all the adhesions, which are often very firm and unyielding, it relieves the constriction entirely, and, acting as a derivative, it cures the hyperæmia of the cervix; and further, it establishes a radical change in the nutrition of the whole organ. For instance, I have operated upon patients who had suffered for years from chronic endo-cervicitis, and when the most gentle touch of the finger would cause excessive pain, when in a few days the sensibility would all be gone, sometimes even before the pessary was removed.

“In cases of flexion the relief is obtained by the straightening of the canal, which is produced by a change of the muscular tissues of the cervix from an abnormal to a normal condition. In the rapid dilatation of the parts, the constricting fibres are, of course, lacerated to some extent; and, in healing up around the pessary, must necessarily conform to their new relation. It was in seeking a remedy for this condition that my mind was first directed to this mode of operation; and, finding the relief so prompt and so effectual, and so safe also, I have been led to adopt the same treatment in all troublesome cases of constriction of the cervix uteri, whether complicated with version, or flexion, or otherwise; and the results have been so gratifying that I take great pleasure in laying them before my professional brethren.

“It would be unreasonable to expect success in every case and under all circumstances, yet I do claim for it a certainty hitherto unattained; and it has this one great advantage—viz., the saving of time, as in my hands it will accomplish more in a less number of weeks than it would take months to do by the ordinary methods. And, according to my own experience, it causes much less constitutional disturbance than the use of tents; and I think it safer even than the metrotome, and free from some serious objections to the use of the latter; as, for instance, when incisions are made through the tissues of the cervix, unless carried deep enough to prevent reunion, they must of necessity form a cicatrix, which will interfere more or less with the dilatation of the parts. And when the operation does not succeed the patient is left in a worse condition than before, while in the rapid and forcible dilatation of the cervix there is no sacrifice of the integrity of the parts, and, being done under the influence of an anæsthetic, there is no shock of the nervous system, and generally but little subsequent suffering.

"While conscious of running counter to the preconceived theories and practice of the profession, I feel quite confident that future experience will sustain me in the position I have taken."

Dr. Ball relates nine cases that have come under his personal supervision, and have proved abundantly satisfactory. He hopes that his experience may not provoke any rashness in others that might serve to bring reproach upon the operation.

Were he asked under what pathological conditions he would recommend this operation, his reply would be, he says, in all cases where any other surgical or mechanical means would be considered advisable, which, of course, must be left to the judgment of the surgeon in charge. He would not interfere, however, in any case where there was acute inflammation of any part of the organ.

ART. 276.—*Acute Metritis occurring in the Seventh Month of Pregnancy during Rheumatic Fever.*

By JOHN WALLACE, M.D., Liverpool.

(*British Medical Journal*, August 30th.)

Before reading the history of this case, Dr. Wallace pointed out its unique character. Most systematic writers on midwifery ignore rheumatic puerperal metritis, and the German and French writers refer to a form of chronic or subacute rheumatism. Pointing out that metastasis frequently takes place to the heart, the cerebral membranes, the lungs, and even the peritoneum, as in Mr. McDowall's case (vide *Dublin Hospital Reports*, vol. ii. p. 325), which ended fatally in a few hours, Dr. Wallace stated that the same thing had happened to the puerperal uterus. The patient's history was shortly as follows:—She had rheumatic fever, of some days' standing, when about seven months pregnant. Without warning, she was seized with intense uterine pain, which ruptured the membranes, and expelled a dead child and placenta. This was followed by well-marked metritis, tympanitis, suppression of lochia, &c. Treatment relieved her somewhat, and revulsives certainly brought back the rheumatic swelling, &c., into the ankles, but she became worse and died, as if from acute peritonitis. The uterus remained large. No post-mortem examination was allowed.

ART. 277.—*Notes of a Case of Imperforate Hymen, with Retained Menstrual Fluid.*

By D. LLOYD ROBERTS, M.D., Manchester.

(*British Medical Journal*, August 30th.)

The patient was a girl, aged twenty. Under chloroform, a small exploratory trocar was introduced, and after it a larger trocar, through which 84 ounces of thick fluid escaped, and during the subsequent

fortnight from 15 to 20 ounces exuded. Some feverish symptoms and abdominal pains set in, but subsided; and subsequently the opening was enlarged with bougies, and the membrane divided on each side. The patient recovered.

Dr. Wallace (Liverpool) suggested that in such cases the fluid should either be withdrawn slowly with the aspirator, or, if it be evacuated by a free incision, the cavity should be injected with an anti-septic solution.

ART. 278.—*On the Prevention of Uterine Inflammation.*

By EDWARD J. TILT, M.D.

(*British Medical Journal*, August 30.)

The author gave it as an admitted fact that the most frequent cause of uterine inflammation was to be found in parturition and in abortion; and his own experience led him to believe that a tedious labour and a bad miscarriage could hardly occur without entailing more or less of uterine inflammation, frequently overlooked in its onset by the medical attendant, metritis, in one form or another, being the almost inevitable sequel of such cases, although many years might elapse before the disease was recognised. The author proceeded to answer the following questions:—

1. What are the symptoms of a bad getting-up?
2. What are the organic lesions of a bad getting-up that lead to uterine inflammation?
3. How to prevent a natural function from becoming a frequent cause of metritis.

1. After tracing the symptoms of a bad getting-up, the author deprecated the little attention paid to the persistence of a red or mucopurulent vaginal discharge for a month or more after parturition. He wished such cases to be carefully inquired into, instead of being treated in a haphazard fashion by tonics and change of air.

2. Although a natural function, parturition had too often untoward results, such as defective uterine involution, placental ulceration of the womb, contusion and laceration of the cervix. Laceration of the cervix was represented as very common, particularly after tedious and instrumental labours. The healing by first intention of these lacerations was given as the rule when they were not extensive and when women were healthy; but if, on the contrary, these lacerations were extensive, they did not heal in sickly women, and had originated some of the worst cases of uterine inflammation that the author had seen. Under similar unfavourable circumstances of health, the bruising of the cervix by a tedious labour was represented as beyond the power of the womb to repair, unless by the repair of ulceration thus produced. Ulceration of that part of the womb to which the placenta had been attached was considered a rare disease, sometimes following the forcible tearing away of the placenta from the womb, and originating one form of internal metritis characterized by frequent flooding. The most important and most frequent cause of uterine inflammation and of other diseases of the womb was said to be defective uterine involution. To an exaggerated

belief in the safety of a natural function was ascribed the fact that medical men too often neglected to ascertain accurately what were the organic lesions that impeded a patient's recovery after parturition; so that, as a rule, defective involution was only recognised when time had confirmed and made it more difficult to cure.

3. The measures calculated to prevent parturition being a frequent source of metritis, were represented to be the logical deduction of the right appreciation of the damage done to the womb by parturition; and it was strongly urged that when, at the end of four or five weeks after parturition, notwithstanding fair nursing, food, wine, and tonics, women still continued weak, with persistent back-pain and muco-purulent or red vaginal discharges, instead of blindly trusting to nature, it would be wiser to ascertain, by an accurate examination, whether the inability to recover health did not depend on one of those organic lesions that could not be cured without the calling in of surgery in aid of nature. The same line of conduct was advised when women were recovering from parturition who had previously suffered from uterine disease, on account of its liability to relapse. The unusual severity of uterine inflammation that originated in abortion was said to depend on the absence of definite rules of conduct to be observed by women after miscarriage, and on the little care they then took of themselves; whereas Dr. Tilt wished the profession could persuade the public that a month of convalescence was not too much to exact after a moderately bad miscarriage; and that if, at the end of that time, a patient did not recover strength, could not walk, had pelvic pains and a red or muco-purulent vaginal discharge, the cause of these symptoms should be carefully investigated. The author stated the difficulty of curing defective uterine involution to be in direct proportion to the time it had already lasted; and he therefore urged its speedy recognition. He recommended leeching the cervix if there were signs of active congestion of the womb, the internal administration of ergot and of iodide of potassium, the painting of the lower part of the abdomen with oleate of mercury, and vaginal injections. It was also admitted that pregnancy had sometimes cured the mischief done by a previous one. Dr. Tilt concluded by emphatically asserting that, by a judicious management of lying-in women, and of those recovering from abortion, uterine irritation and congestion would be reduced, and lacerations healed; and that uterine inflammation would be checked in its origin, and, at all events, its acuteness and duration would be greatly diminished.

Dr. Steele (Liverpool) doubted the utility of vaginal injections as curative agents in inflammation within the cavity of the cervix or uterus, which could only be successfully combated by medication at the seat of the disease. He also thought there would be some difficulty in so localizing internal metritis as to justify the term placental ulceration.

Dr. Thomson (Edinburgh) believed that subinvolution was a frequent cause of uterine ailment.

Mr. Bracey (Birmingham) endorsed many of the views expressed in the paper, which he regarded as a most valuable communication. He understood that vaginal examination was recommended only when convalescence did not proceed favourably.

ART. 279.—*Case of Stricture or Atresia of the Female Urethra.*

By J. WALLACE, M.D., Liverpool.

(*British Medical Journal*, August 30th.)

After pointing out the different causes of obstruction of that tube, he referred to the almost complete silence on that subject of nearly all the systematic writers on surgery, midwifery, and gynaecology. Referring to Sir B. Brodie's case (vol. ii. p. 455), where it is stated that the orifice of the urethra is nearly always the part affected, the following history of Dr. Wallace's case was given:—

Mrs. B., aged thirty-six, suffered from retention of urine and dribbling for nearly twelve years, for which she had consulted several medical men without relief. The urethra was so closed as not to admit the smallest probe. It was drilled open with Lister's probe forceps, but closed in three weeks, although Dr. Wallace had passed the finger into the bladder. It was again dilated, and incised laterally at the neck of the bladder with Simpson's hysterotome. In three weeks it had again closed at the external orifice. It was opened again, and was now, at the end of six weeks, remaining open. The patient was cured. A catheter for permanent wear was shown, which would be introduced if the urethra closed again.

ART. 280.—*Treatment of the Flexions of the Uterus.*

By THOMAS SAVAGE, M.D., Birmingham.

(*British Medical Journal*, August 30.)

The cases were taken from the out-patients seen by Dr. Savage at the Hospital for Women, and were limited to flexions of the nulliparous uterus. The object of the paper was to advocate the use of an intra-uterine stem. In all cases where recourse was had to this plan the symptoms were improved, and great relief was given without any of the dangerous or serious after-effects which are sometimes said to arise. Even in the case of the unmarried the symptoms were so severe, the relief from the instrument so marked, that Dr. Savage did not think it right to withhold from such patients the benefit of treatment advocated. Dr. Savage had used intra-uterine stems for retro-flexions and ante-flexions in forty-four women who had never been impregnated, and in not one had any ill effect followed. The discharge, slight as a rule, even when profuse, had not been found troublesome, and could be kept in check by the frequent use of ordinary astringent injections. It had always seemed to disappear on the use of the instrument being discontinued. Dr. Savage had tried the galvanic stem as usually sold; also the modification of it, as suggested by Mr. Lawson Tait—i.e., with a bulbous extremity, the plain vulcanite stem, Dr. Greenhalgh's stem, one devised by Mr. Ross Jordan, with a perforation near the extremity, through which was passed a thread of india-rubber, after the manner of

the winged catheters; but the tendency of all was to slip out. Dr. Chambers's stems seemed most likely to remain in without other assistance, but in two instances they too escaped. The padlock of Dr. Graily Hewitt was in some cases an admirable contrivance, and most frequently remained *in situ*. The best means to adopt was to insert the stem, and keep it in place of a shelf-pessary cut small, or a small ring elongated, and moulded to the size and shape of the vagina. The supports of Dr. Wynn Williams seemed to be very useful. It did not seem at all clear why the stem slipped out in a few hours in one patient, while in another it was retained for weeks or even months. Dr. Savage gave some illustrative cases.

ART. 281.—*Report of a Case of Ovarian Dropsy, with unusual Quantity of Fluid.*

By E. G. BRUNKER, M.D.

(*Dublin Journal of Medical Science*, August.)

At a meeting of the Dublin Obstetrical Society, the secretary read the following communication from Dr. E. G. Brunker, of Dundalk:—

Rose Rooney, a married woman, forty years of age, was admitted to the Louth County Infirmary on the 19th of July, 1872, labouring under ovarian dropsy. Her appearance on presenting herself was most extraordinary, from the enormous size of the abdomen, the circumference of which measured sixty-three inches (five feet three inches). Her countenance did not exhibit any sign of distress. Breathing free, functions of bowels and kidneys healthy, slight emaciation. She appeared to have no source of complaint but from the vast distension of the abdomen. She stated that the abdomen had been gradually increasing in size for some years, and that, notwithstanding, about a year before she came to the infirmary she gave birth to a healthy child, at full time, who survives. Since the birth of this child she says she occasionally, but not regularly, menstruates. The patient was placed in the recumbent position, the abdomen projecting considerably over the edge of the bed, and the operation of paracentesis performed, when *ten gallons* of a dark, oily fluid were drawn off. No distinct tumour could be detected when the abdomen was emptied. No bad symptom whatever supervened, and the patient, of her own accord, returned home on the 2nd of August, having been but fourteen days in the infirmary.

As it was evident that the abdomen was filling up and would again require to be tapped, she was advised to return for that purpose before it became as much distended as before.

She was re-admitted to the infirmary on the 6th of June, 1873. The abdomen was about the same size as on the former occasion, being five feet three inches in circumference. She still retained a healthy appearance, did not suffer from dyspnoea, was able to lie down flat in bed, and made no complaint but of the bulk and weight of the abdomen; no swelling of legs.

She was placed in the same position as formerly, and the same quantity (ten gallons) of oily fluid, but of lighter colour, drawn off. No

tumour could be detected. The abdominal walls were, of course, extremely flaccid, and were supported by a broad firm roller. No occurrence of syncope.

She says, since her return from the infirmary, in August last, she has led a very active life, and enjoyed good general health, even occasionally menstruating.

ART. 282.—*On Psychological Disturbances of Puerperal Origin.*

By Dr. AUGUSTE OLLIVIER.

(*Archives Générales de Médecine*, Mai, 1873.)

“These disturbances, states Dr. Marcé, are of two kinds; some constitute simple moral disarrangements which do not deprive the patient of her free will, but impress quite a peculiar character on her conduct and physiognomy; others present a state of mental alienation variable in form, but quite characteristic.

“The two principal forms of what is called puerperal insanity are melancholia and mania. It is necessary to bear in mind that under this title of puerperal insanity is comprised not only the insanity which occurs in the pregnant woman, but also that observed after pregnancy and during the period of lactation. As I would restrict the instances of insanity which I propose to study to those which are developed in the pregnant woman, and which do not recognise as their cause either heredity or continuous and prolonged moral disturbance, it is necessary that no other cause than pregnancy should be found for the insanity.

“Although insanity does not frequently come on during pregnancy, authors on this subject have been able to collect a fair number of cases. From 310 cases collected by Dr. Marcé, the insanity came on during pregnancy in 27 cases, soon after delivery in 180 cases, and during the period of lactation in 103 cases.

“Dr. Tuke, who tabulated 155 cases of puerperal insanity that had been observed in the Royal Asylum, Edinburgh, found a very different proportion; 28 cases of insanity during gestation (a proportion almost double that given by Dr. Marcé), 73 soon after delivery, and 54 during lactation.

“The influence of pregnancy, and of pregnancy alone, has been in some cases found quite indisputable. Thus Dr. Montgomery has reported the case of a woman who became maniacal at each pregnancy, and this during eight successive pregnancies. Shortly after each delivery she recovered her reason.

“The insanity of pregnancy may be temporary, and may terminate in cure. This is what most frequently occurs. Sometimes, however, the cardiac disturbances are so intense as to cause death (according to Dr. Marcé in one out of 19 cases).

“The insanity of pregnant women may be regarded as allied to certain coincident affections of other organs than those of the nervous system, such as puerperal goitre, puerperal icterus, and puerperal albuminuria.

“But in the same way that these affections may persist after delivery and acquire the chronic form, so also may the insanity of pregnancy, which may disappear or terminate fatally, become chronic. Recovery, death, and a state of dementia are the three modes of termination of puerperal insanity indicated by authors.”

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 283.—*On Debility in Children.*

By WILLIAM HENRY DAY, M.D., M.R.C.P., Physician to the Samaritan Free Hospital.

(*Diseases of Children*, pp. 191, London, 1873.)

Dr. Day, in an essay on the above subject, enumerates the following well-defined symptoms:—Powerlessness and lassitude of the whole system; the child hangs and drops about; he has generally a shy and timid look. In most cases there is neither discomfort nor pain, the bowels are not very regular, and the evacuations are scanty, from the small amount of food that is taken. The tongue is clean and moist, it may be pallid, but indicates no active disturbance. Sometimes there is a film on the tongue of a thin silvery whiteness, or the coating is thicker and yellowish; but the front of the tongue is never involved, the tip and sides showing a natural hue; sometimes it presents a smooth and dusky aspect. The pulse is weak, small, and usually slow; sometimes rather accelerated, owing to nervous excitement induced by the examination. The skin is often cool. The patient is frequently noticed to be lying across a chair or sofa in a passive state of indifference, dropping off into a calm and prolonged sleep—the quiet sleep of fatigue, not the restless sleep of exhaustion. The two most common attendant symptoms are headache and pain at the epigastrium.

The importance of an early recognition of these symptoms must be apparent when we learn that such cases, when neglected, cause chorea, epilepsy, convulsions, paralysis, &c., and partly lead to those changes in the blood which originate anæmia, tuberculosis, and every form of diabetes that lowers health and produces disease.

ART. 284.—*Electricity in Infantile Palsy.*

By Dr. DUCHENNE.

(*De L'Electrisation Localisée*, par le Dr. Duchenne de Boulogne, Paris, 1872.)

In a review of Dr. Duchenne's work, Dr. Clifford Allbutt states, in the *British and Foreign Medico-Chirurgical Review*, October, that Duchenne speaks cheerfully of the prospects of treatment in the above hitherto rebellious affection. In early cases he makes a very favourable prognosis, and few cases are so advanced or so bad as to make him despair of some measure of relief. The rules, as given in chap. iv., art. i., Dr. Allbutt condenses as follows:—1. Avoid faradism at the onset,

when fever is present, and treat the patient by other appropriate means. 2. In two or three weeks, when all febrile conditions have subsided, we must use localized muscular excitation; and, in connexion with this, the author advises the use of certain internal medication, which seem to Dr. Allbutt to be at least of doubtful value, such as "revulsives addressed to the skin and intestines, calomel and strychnine." 3. In order to alarm and pain the child as little as possible, the intermittences of the current are to be made as distant as possible. In this way, Dr. Duchenne says that faradization may be practised for a long time, and so as to cause energetic muscular contractions without unduly distressing the patient.

ART. 285.—*On the Treatment of Enlarged Scrofulous Glands.*

By J. LEWIS SMITH, M.D.

(*Treatise on the Diseases of Infancy and Childhood*, 2nd edition,
London and Philadelphia, 1872.)

"It is the common practice," Dr. Smith writes, "to treat these glands, if they are subcutaneous, by daily application over them of the officinal tincture, the compound tincture, or the compound ointment of iodine. It is my opinion, from observing the effects of these agents, that they are too irritating for ordinary cases. Applied daily, they cause proliferation of the cells of the epidermis, so that in two or three days the thickening of the cuticle is greatly increased, and its external layer begins to exfoliate. It has appeared to me that what we observe in the epidermis illustrates, to a certain extent, what occurs in the gland underneath, as a result of active counter-irritation. The gland does not resolve, its superfluous cells are not destroyed and absorbed, as was desired, but the treatment tends rather to increase the proliferation of the cells of the gland or the formation in it of true leucocytes. We have seen that a local cutaneous inflammation, as eczema or impetigo, is apt to cause the neighbouring lymphatic glands to enlarge. How, therefore, can we expect to reduce a glandular swelling by a mode of treatment which establishes a similar condition? I once produced, partly by accident, such an amount of vesication over an enlarged, hard, and apparently somewhat indolent gland, in an infant of fourteen months, that for a week I was very anxious lest a sore would result, which would heal with difficulty, or leave a permanent cicatrix, and yet, instead of dispersion of the glandular swelling, the pathological processes were so promoted that suppuration and discharge of pus occurred by the time that the cuticle had re-formed. If hyperplasia of the lymphatic gland could be cured by counter-irritation, it should have been in this case.

"The correct mode of treating these glands, therefore, as regards external measures, I hold to be, to apply the iodine preparations in such a manner that the largest amount of iodine will reach the glands by absorption, with little irritation of the skin. I am not prepared to state what is the best formula for the application of this agent. During

the last few months we have been attempting to determine this in the children's class at the Out-door Department at Bellevue, but our statistics of cases are not at present sufficiently complete or numerous to enable me to make a positive statement. I feel justified, however, from the observations already made, in recommending the following formulæ as preferable to the officinal preparations which are commonly employed:—"℞ Potas. iodidi, ʒj; ung. stramonii, ʒj; Misce, to be rubbed over the gland several times daily. It should not be applied as a plaster, as it is too irritating and will vesicate. I have known a glandular swelling, which had continued about three months, to disappear in as many weeks under its use in connexion with internal remedies. Glycerine may be employed in place of stramonium ointment."

ART. 286.—*Diseases of the Chest in Children: their Treatment by Blisters.**

By DANIEL MACLEAN, M.D., Glasgow.

(*British Medical Journal*, August 30th.)

This paper advocated the use of, and necessity for, the application of small blisters behind the ear in cases of acute disease, or the acute stage of disease of the chest among children and infants. The author had used this treatment in many appropriate cases, and had found great benefit from its adoption. He founded it on the fact that the nervous system played an important part in all the diseases of the young. Any abnormal action going on in the brain modified the proper influence of that centre upon the tissues at a distance, and gave rise to pathological actions in distant parts. With regard to the lungs, an abnormal action, continuing in a certain part of the encephalon for a time, was conveyed along the efferent fibres of the vagus to their peripheral terminations in the lung-tissue, and stimulated the tissue to pathological action, thus giving rise to disease in the lungs, from a cause at a distance from the lungs themselves. Again, an excessive irritation of the peripheral terminations of the nerves in the lungs, as in bronchitis, pneumonia, &c., passed along the efferent fibres of the nerves to the brain, and by its continued irritation there became a cause of convulsions, hydrocephalus, &c. This mutual action of the nerve-centre and lung-tissue through the afferent and efferent filaments of the pneumogastric nerves, the author held to be the principal cause of the great mortality from chest affections among children. This irritation accounted for the nervous symptoms frequently exhibited by children in these disorders. The greater the amount of nervous sensitiveness and irritation, the greater the danger. For the removal of this important element in chest-disease, the author recommended the use of blisters on or near the course of the nerves supplying the lungs; a convenient and advantageous spot being behind the ear. This treatment was explained, and the use of blisters generally defended.

* Read at the Forty-first Annual Meeting of the British Medical Association.

ART. 287.—*Diarrhœa in Teething.*

By FRANCIS MINOT, M.D.

(Boston Medical and Surgical Journal, January 2nd.)

In a clinical lecture "On the Primary Dentition of Children," by Dr. Minot, in speaking of the diarrhœa complicating teething during hot weather, he recommends the common chalk mixture, with the addition of one-fourth part of tincture of kino, which increases its astringency, and also keeps it from turning sour in hot weather. If the diarrhœa be not checked by this mixture, one drop of laudanum may be added to a dose, but not oftener than three times a day, in children under two years old. Diarrhœa is most apt to attack children who are brought up on the bottle; hence, if the case be urgent, and do not yield to treatment, a wet-nurse should be procured if possible. When this cannot be done, he would strongly recommend the method of preparing the milk with arrowroot and gelatine, found in the treatise on "Diseases of Children," by Drs. Meigs and Pepper. Brandy is very useful to a teething child exhausted by diarrhœa, which should be given once in three or four hours, or oftener in urgent cases. The dose is ordinarily from five to twenty-five drops, given in milk; but if there be much prostration, the physician need not fear to increase the amount.

ART. 288.—*Pneumonia in Children.*

By J. STEPHENSON, M.D.

(British Medical Journal, November 29.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, Nov. 5th, Dr. Stephenson read a paper on pneumonia as observed in children. The author regarded the clinical chart, *i.e.*, the record of temperature, pulse, and respiration, as the true representative of the disease, and of higher value, practically and scientifically, than the physical signs. By its means the different forms of pneumonia could be more readily differentiated, and diagnosis was greatly facilitated. The latter point was of special value in children, from the greater frequency of the cases where the physical signs remained latent for a longer period than was usual in adults; the occurrence of cases where the physical signs were very slight, and the greater frequency of the affection attacking and limited to the apex. The acute primary pneumonia was only dealt with in the present paper. It presented in children the same typical chart as in the adult. Cases, the author believed, frequently occurred in which there was absence of chest-symptoms till late in the disease, and such were often mistaken for fever. The immediate development of a high pyrexial state, with delirium, should always direct attention to the chest. By careful watching in such cases, the author had frequently detected a very limited amount of lung-lesion, which might readily have been overlooked. The early delirium he considered a very important symptom. In pneumonia limited to the apex, the physical signs were, as a rule, latent till the fifth day. To this there was an exception of a

very fatal class, where the consolidation was complete from the first. This class the author separated entirely from the others. When the febrile state was prolonged beyond the natural period, an effort at a crisis could always be detected about the fifth or sixth day. Whilst the course of temperature and pulse was typical and constant, no relation was perceptible between it and the occurrence of the physical signs, either in time or in degree. The severity or favourable character of a case was not to be estimated by the height of the temperature; a higher range was met with in some of the favourable cases than in the fatal. It was less by the height of the temperature than by the relation of the pulse to the temperature, that an opinion as to prognosis was to be formed. A temperature of 104° in the fatal cases was associated with a pulse from 144 to 150; in the favourable with 130 to 136. The evidence of success in treatment could never be represented by an aggregate mortality, and no true result could be obtained by grouping together a large number of cases with only the one connecting link of the physical signs of pneumonia. There could be no true cutting short of the disease; where such a term was used, it could only apply to the prolongation out of due limit of the affection. The test of treatment should be the closeness with which the fever accorded to the normal type. It was not necessary to show any material lowering of the temperature or pulse so long as these were within the normal range; but it was essential, whether the range was affected or not, that the typical course should be retained. Active treatment tended to alter the course, especially prolonging the stage of convalescence. The complex nature of fevers was recognised in the science, but very little in the art of medicine. The tendency of the present day was to take the temperature and pulse as the sole constituents, or representatives, and to estimate treatment by them alone. But there was another element which we could as yet only inferentially estimate and could not record. This element the author called tension; the degree of tension made up the difference between two cases which presented the same average temperature. Treatment might be directed towards it, and we might succeed in lowering the tension without affecting the temperature. An estimation of the tension might be obtained by the relation between the temperature and pulse, and the amount of oscillation between the morning and evening temperature. Treatment directed to lower tension might be represented by an actual rise in the pulse. These several points were illustrated, by reference to the cases recorded, with carefully drawn clinical charts.

The President, in conveying the thanks of the Society to the author, alluded especially to the value of the observations on tension, also on treatment, and its value in cutting short or modifying the disease.

Dr. Matthews Duncan had been especially struck by the uniformity of the clinical charts of acute primary pneumonia, illustrating, as they did, the sudden rise of temperature at the outset, which was followed by a sort of table-land of high temperatures lasting from five to seven days, and followed by an equally sudden fall. He thought Dr. Stephenson's data gave him a right to isolate these cases from the rest under a special head. The other sets of cases did not appear to him to be so distinct or characteristic.

Dr. G. W. Balfour was rather disposed to agree with Wunderlich in thinking that in pneumonia temperature was not of much consequence. After excluding catarrhal pneumonia and broncho-pneumonia, he recognised three types of pneumonia in adults differing in the following temperature characteristics :—

1. Cases in which the temperature rose suddenly, and after a day or two fell with equal suddenness; in this embolic or œdematous form no treatment was possible or required.

2. Cases in which a sudden rise was followed by five to seven days of high temperature, and then an equally sudden fall; these might be improved or cut short by treatment.

3. Cases in which a gradual rise was followed by three or four days of high temperature, and then by an equally gradual decline. He was much interested in the question of tension.

Dr. James Carmichael alluded to a remarkable hyperæsthesia of the skin over the inflamed part of the lung which he had recently noticed in three cases in children; and also alluded to the interesting question as to the future history of cases of apical pneumonia in relation to phthisis.

Dr. Stephenson, in reply, alluded to the way in which treatment often caused variation in the clinical charts of pneumonia cases, specially in the direction of retarding the fall in temperature at the end.

ART. 289.—*On the Treatment of Hydropneumothorax by Puncture of the Chest and Washing out the Pleura.*

By Dr. SANNÉ of Paris.

(*Gazette Hebdomadaire*, No. 33, 1873.)

The author records a case of pyopneumothorax commencing suddenly in a child, aged ten years. Thoracocentesis was performed, and the opening in the wall of the chest dilated. The pleural cavity was subsequently washed out, a syphon being used, and a catheter with a double current. The patient was cured at the end of the third month. The following remarks are given concerning this case :—

“It is evident that the infant in this case recovered from a disease of undoubted gravity, which would, if it had been left to itself or subjected to a less radical treatment, have infallibly terminated in death. The very existence of hydropneumothorax, a disease which does not get well spontaneously, and also the appearance of alarming symptoms, such as the putridity of the pus, its rapid reproduction, the symptoms of poisoning (shivering, fetid odour of the secretions and stools), prove this fact. The washing out of the pleura was of undoubted utility in this case. Everything justifies this view, not only the result, but also the surprising amelioration which followed the first complete injection.

“A very important point in this case is the treatment by puncture and injections of a sudden attack of pyopneumothorax. In an interesting case reported by M. Laboulbène, pulmonary perforation, occurring during the treatment of purulent pleurisy, was treated by puncture and

injections containing iodine. Here the existence of pulmonary perforation became evident on puncture, and it then became necessary to direct immediately the effects of treatment against the complex morbid condition thus revealed.

"From this case we learn that it is possible to treat with prospect of success spontaneous pyopneumothorax, and, *à fortiori*, hydropneumothorax, presenting itself under similar circumstances. Hitherto hydropneumothorax has been regarded as an incurable affection; the rare attempts to treat this disease by puncture gave results so discouraging that they were generally abandoned. Every subject of this cruel malady was doomed to certain death, and the gravity of his condition seemed to be placed beyond relief from art.

"It having been proved by M. Laboulbène that copious injections into the pleura may be reasonably applied in cases of secondary perforation, there were full indications for applying his system in cases of primary perforation. This has since been done, and with success.

"Hydropneumothorax, then, is curable, and the necessity of undertaking its treatment is imposed on every practitioner. I should not fail, however, to add that this precept must be taken with reserve, and that I have in view only simple hydropneumothorax. I would guard myself from making so positive an assertion if I had to deal only with pulmonary perforation occurring in tuberculous or cancerous subjects.

"The patients treated by M. Laboulbène and myself were not tuberculous; the pulmonary perforation was accidental, and capable of ready cicatrization. Tuberculosis would certainly have presented obstacles to cicatrization, and the cases would not have progressed so favourably. Abstention, then, seems to be the rule in tuberculous cases; moreover, this rule ought to be scrupulously followed if the pulmonary perforation in a tuberculous patient have occurred at an advanced period of the disease, when it would be at least useless to undertake a proceeding not exempt either from danger or fatigue to the patient—the state of cachexia being considered—in the hope of bringing about a chimerical and certainly temporary amelioration.

"In a case where there is doubt as to the presence of tubercle, as often happens in an infant, the treatment by operation would be attended by uncertainty, but still doubt alone would not justify one in neglecting this treatment.

"The mechanism by which perforation took place in my case deserves to be noted. The infant was emphysematous, and it was during the course of a slight attack of bronchitis, and, probably under the influence of an effort to cough, that a dilated vesicle was ruptured, so as to allow the passage of air into the pleural cavity.

"By many authors pulmonary emphysema is mentioned as a possible cause of pneumothorax in consequence of rupture of a vesicle; it is not less true, however, that this consequence of emphysema has been observed only in extremely rare cases. On this account alone my case deserves to be taken into consideration.

"It may be objected that as the symptoms of emphysema had disappeared several years previously, the actual existence of this morbid condition could not be proved. This is just. Still, though most of the vesicular dilatations had disappeared, it may be admitted that a small

number, or one vesicle, had remained, and was ruptured during an effort to cough.

"It may be remarked also that emphysematous distension of the pulmonary parenchyma had not constituted an obstacle to the rapid cicatrization of the perforation; the utility inherent in the age of the patient had rapidly counterbalanced the unfavourable nature of the local organic disposition.

"There is one other point to which I desire to direct attention. In the recent discussion at the Academy of Medicine on the treatment of purulent pleurisy, and in several remarkable works written on the same subject, the necessity has been insisted upon of performing the operation for emphysema in cases where it might be supposed that the pleural cavity contained false membranes too large to be extruded through the opening made by the trocar. This practice is perfectly rational, though probably somewhat absolute. During the treatment of my little patient large fragments of false membranes were frequently discharged, and that, during a long period, the returning stream of injected water carried with it a great quantity of small fibrin and white fragments of similar material. There is produced, then, under the influence of the current which traverses and washes every corner of the pleural cavity, a disintegration of the pathological products which permits them to pass freely through an orifice too large to allow their exit in one piece. An opening made by an ordinary trocar, and slightly dilated by laminaria, suffices, then, to meet this difficulty, and fulfils all conditions. Would it be possible to stop here in every case? This is a question that I will not undertake to answer. Whatever may be the answer, the above method should be tried at first; if it should not succeed, recourse can be had to further proceedings. I am far from wishing to discredit the operation for empyema; no one is more convinced than myself of the excellent results of this operation, but as it constitutes a true operative proceeding, its employment might be dreaded by some practitioners, who would not hesitate to carry out a simple proceeding and one so readily executed as that employed on the patients of M. Laboulbène and myself."

APPENDIX.

FARINA VITÆ.

We have received a packet of food bearing the above name, with a letter requesting us to submit the article to analysis and report upon the same. If pronounced inferior to the numerous farinaceous articles of diet now before the public, we are informed that it will not be introduced, but if pronounced better it will at once be brought forward. After such preface we may remark that we have made a most careful analysis of the meal, and have no hesitation in according a verdict in favour of Farina Vitæ. As an article of diet it is immeasurably superior to any other of a similar nature with which we are acquainted. The "corn-flours," "maizena," and "revalenta Arabica" are known to consist principally of starch (*amylum*), for which reason we contend that all such meals ought to be excluded from the dietary of infants and adults. Farina Vitæ is especially rich in albuminous substances—products so essential to the healthy organization of the blood, tissue, bone, &c. It contains an average quantity of fatty or heat-forming matter, and is particularly rich in salts, especially phosphates. We have also found potassa, magnesia, lime, iron, and phosphoric acid, from which we conclude that the meal consists chiefly of wheat, barley, oatmeal, pea-meal, and rye, though its not improbable that other cereals known to contain a large quantity of protein may all have some share in the happy combination of Farina Vitæ. For "rickety" children and for persons suffering from debility, no matter from what cause it arises, Farina Vitæ would prove an admirable corrective; whilst for that not uncommon malady—constipation, the meal is simply invaluable. Taken, as the Scotch take their porridge, an hour before breakfast, or the last thing at night, or as a substitute for any repast; or, in fact, as in any of the numerous recipes given, it must be looked upon as a most valuable addition to every household; and since it contains more nutriment, weight for weight, than three times the quantity of meat, and is extremely cheap, being only one-half the price of the much-vaunted revalenta Arabica, it might be used largely by the poor, as well as in our numerous workhouses and other institutions.

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